

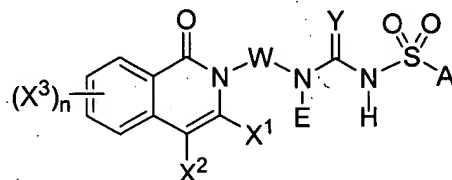
### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

### Listing of Claims:

1.-22. (Canceled)

23. (Currently amended) A compound of the following formula:



wherein:

A is thienyl, optionally substituted with from one to two halogen atoms;

W is phenylene, optionally substituted with from one to two substituents selected from the group consisting of halogen, methyl and trifluoromethyl;

E is selected from the group consisting of H, -C<sub>1</sub>-C<sub>8</sub> alkyl, polyhaloalkyl, and -C<sub>3-8</sub>-cycloalkyl, ~~aryl, alkylaryl, substituted aryl, heteroaryl, and substituted heteroaryl~~;

n is an integer from 0-4;

each instance of X<sup>1</sup>, X<sup>2</sup> and X<sup>3</sup> is a member independently selected from the group consisting of hydrogen, halogen, polyhaloalkyl, -OR<sup>3</sup>, -SR<sup>3</sup>, -CN, -NO<sub>2</sub>, -SO<sub>2</sub>R<sup>3</sup>, -CONHR<sup>3</sup>, -C(=NH)NHCH<sub>3</sub>, -C<sub>1-10</sub>-alkyl, -C<sub>3-8</sub>-cycloalkyl, aryl, aryl-substituted by 1-4 R<sup>3</sup> groups, amino, amino-C<sub>1-8</sub>-alkyl, C<sub>1-3</sub>-acylamino, C<sub>1-3</sub>-acylamino-C<sub>1-8</sub>-alkyl, C<sub>1-6</sub>-alkylamino, C<sub>1-6</sub>-alkylamino C<sub>1-8</sub> alkyl, C<sub>1-6</sub> dialkylamino, C<sub>1-6</sub> dialkylamino C<sub>1-8</sub> alkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkoxy-C<sub>1-6</sub>-alkyl, carboxy-C<sub>1-6</sub>-alkyl, C<sub>1-3</sub>-alkoxycarbonyl, C<sub>1-3</sub>-alkoxycarbonyl- C<sub>1-6</sub>-alkyl, carboxy C<sub>1-6</sub> alkyloxy, hydroxy, hydroxy C<sub>1-6</sub> alkyl, and a 5 to 10 membered fused pyrrolidino, imidazolo, thiazolo or oxazolo ~~or non-fused aromatic or nonaromatic heterocyclic~~ ring system, having 1 to 4 heteroatoms independently selected from N, O, and S, and a 5 to 6 membered aromatic or nonaromatic heterocyclic selected from the group consisting of oxazolinyl, pyrrolidinyl, imidazolinyl and pyridyl, with the proviso that the carbon and

nitrogen atoms, when present in the heterocyclic ring **system**, are unsubstituted, mono- or di-substituted independently with 0-2  $R^4$  groups;

$R^3$  and  $R^4$  are each independently selected from the group consisting of hydrogen, halogen, -CN, -NO<sub>2</sub>, -C<sub>1-10</sub> alkyl, C<sub>3-8</sub>-cycloalkyl, aryl, amino, amino-C<sub>1-8</sub>-alkyl, C<sub>1-3</sub>-acylamino, C<sub>1-3</sub>-acylamino-C<sub>1-8</sub>-alkyl, C<sub>1-6</sub>-alkylamino, C<sub>1-6</sub>-alkylamino C<sub>1-8</sub> alkyl, C<sub>1-6</sub> dialkylamino, C<sub>1-6</sub> dialkylamino C<sub>1-8</sub> alkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkoxy-C<sub>1-6</sub>-alkyl, carboxy-C<sub>1-6</sub>-alkyl, C<sub>1-3</sub>-alkoxycarbonyl, C<sub>1-3</sub>-alkoxycarbonyl-C<sub>1-6</sub>-alkyl, carboxy-C<sub>1-6</sub>-alkyloxy, hydroxy, hydroxy-C<sub>1-6</sub>-alkyl, -thio and thio-C<sub>1-6</sub>-alkyl, **wherein optionally two alkyl groups attached to a nitrogen atom can be combined with the nitrogen atom to form a pyrrolidinyl, piperidinyl or morpholinyl ring;**

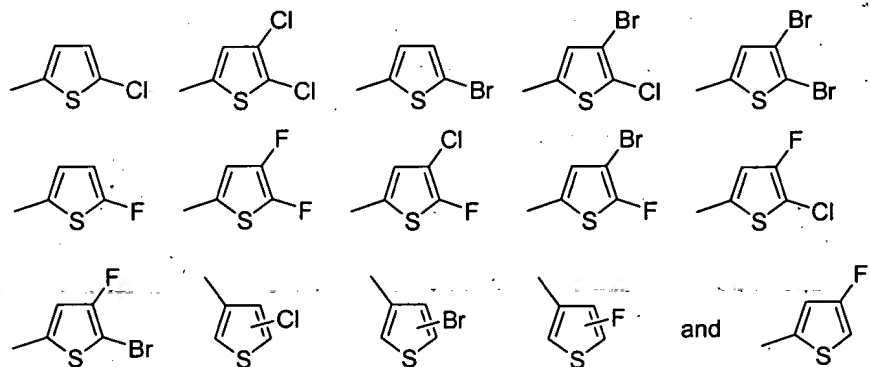
Y is selected from the group consisting of O, S, N-OR<sup>5</sup> and NR<sup>5</sup>;

R<sup>5</sup> is selected from the group consisting of H, C<sub>1-10</sub> alkyl, C<sub>3-8</sub>-cycloalkyl, and CN;

or pharmaceutically acceptable salts ~~and~~ **prodrugs**.

24. (Original) A compound according to claim 23, wherein

A is selected from the group consisting of:



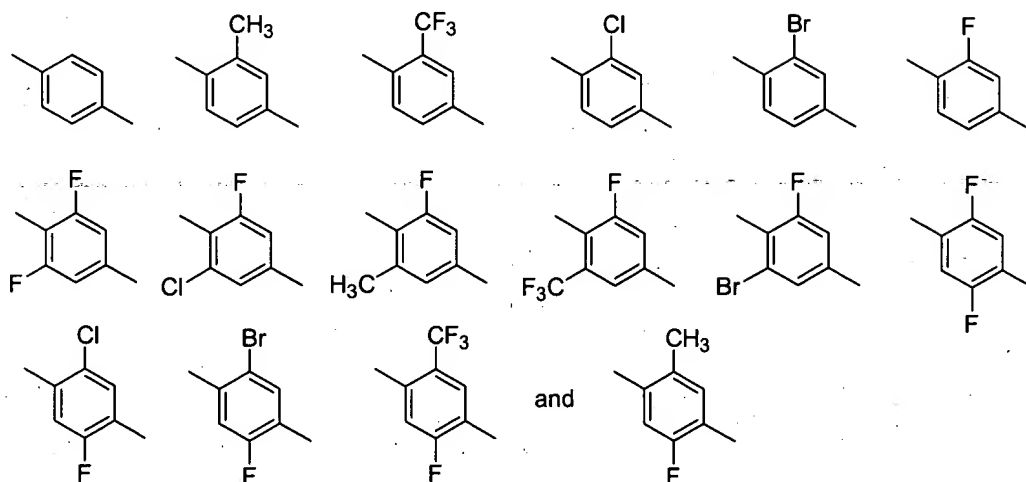
Y is selected from the group consisting of O, S, N-OR<sup>5</sup> and NR<sup>5</sup>;

E is selected from the group consisting of H, or C<sub>1-8</sub>alkyl; and

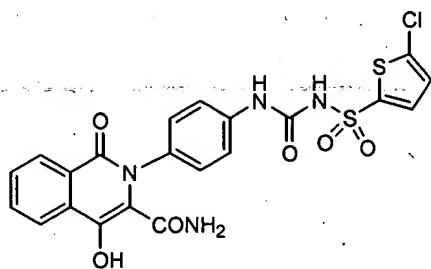
Appl. No. 09/920,325  
Amdt. dated November 13, 2003  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group 1624

PATENT

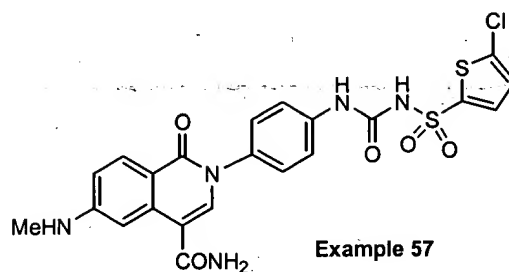
W is selected from the group consisting of:



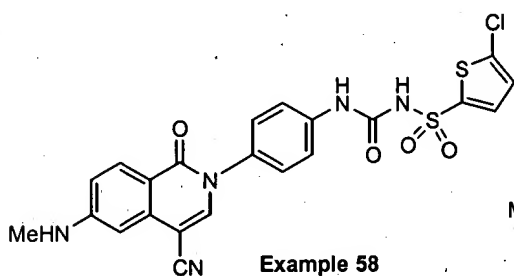
25. (Currently amended) A compound of claim 23, selected from the group consisting of:



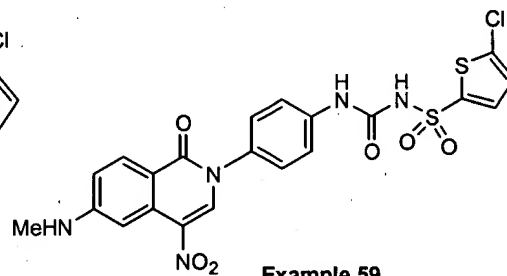
Example 56



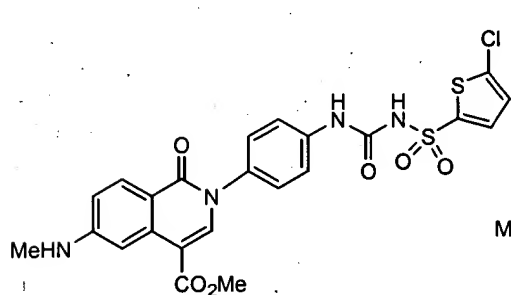
Example 57



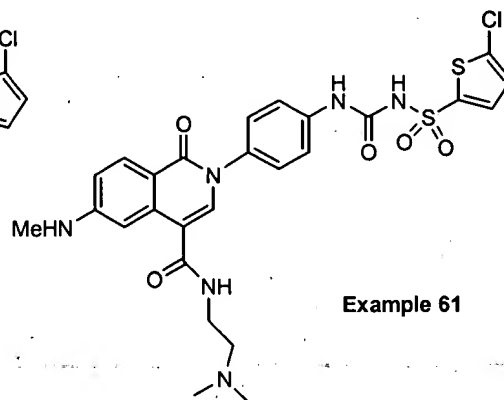
Example 58



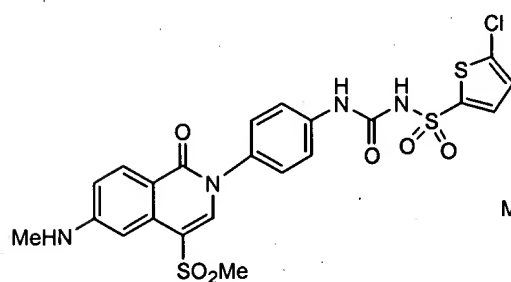
Example 59



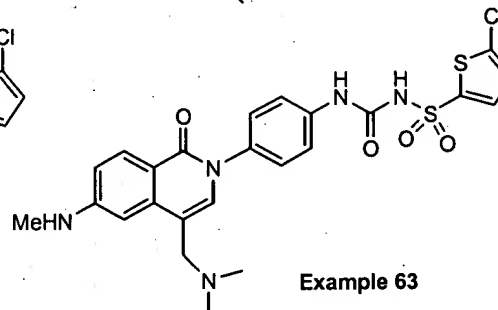
Example 60



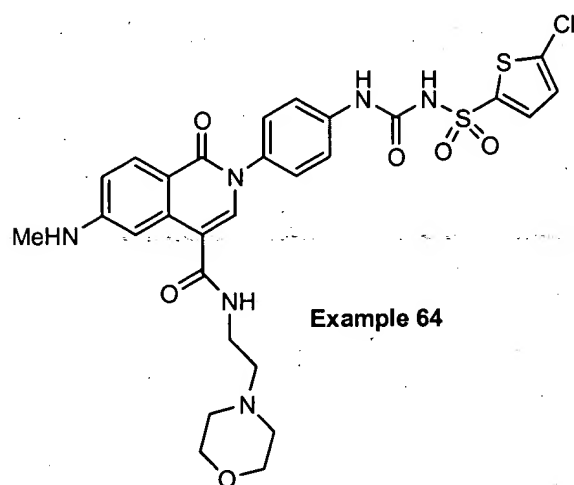
Example 61



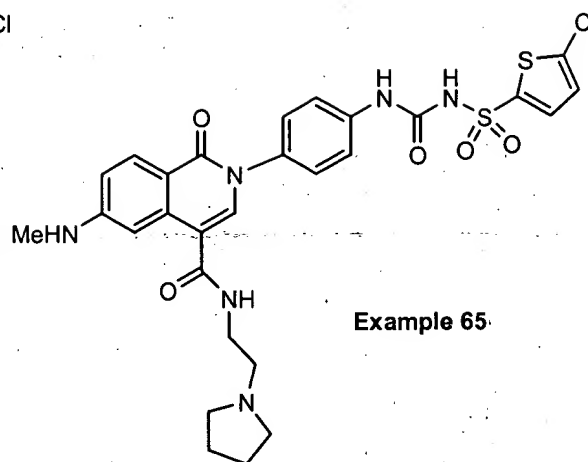
Example 62



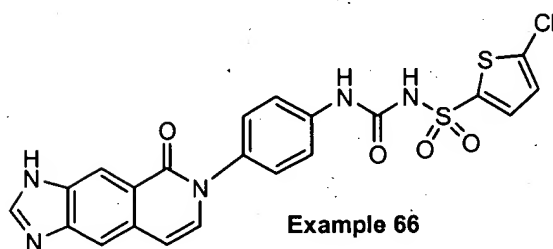
Example 63



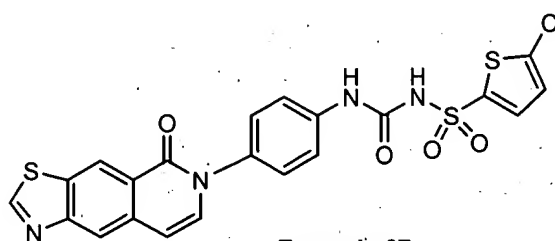
Example 64



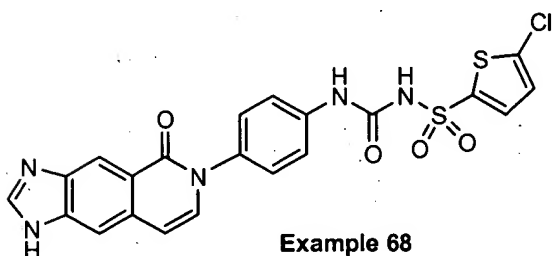
Example 65



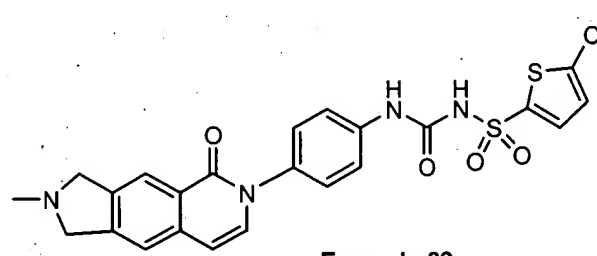
Example 66



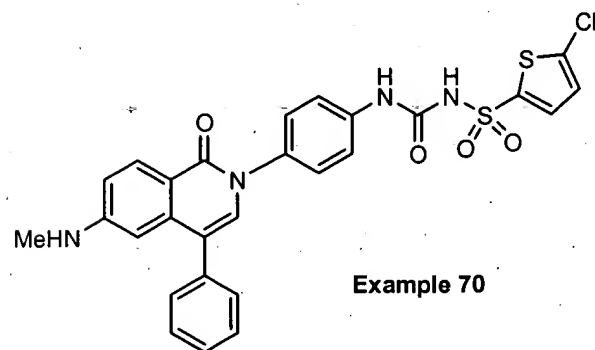
Example 67



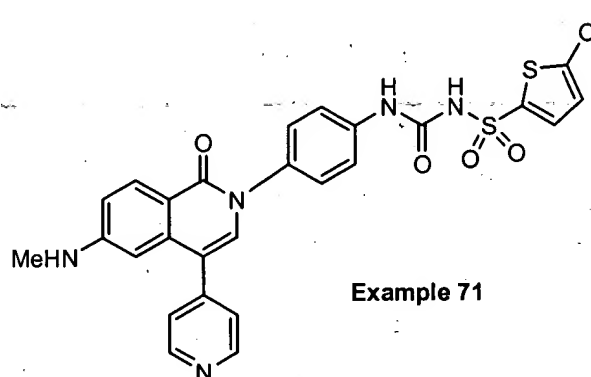
Example 68



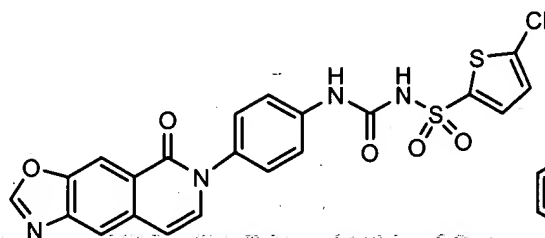
Example 69



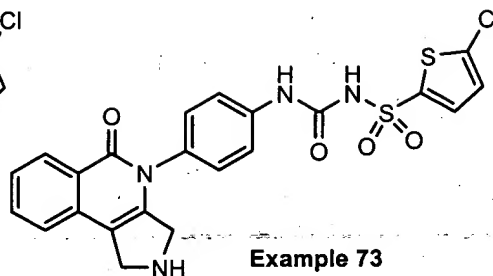
Example 70



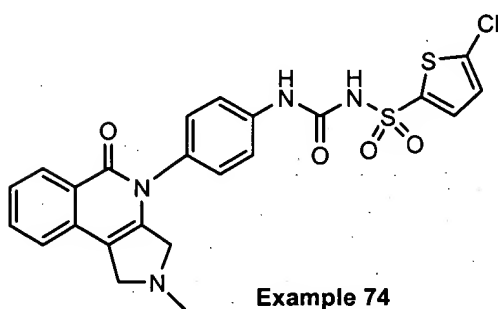
Example 71



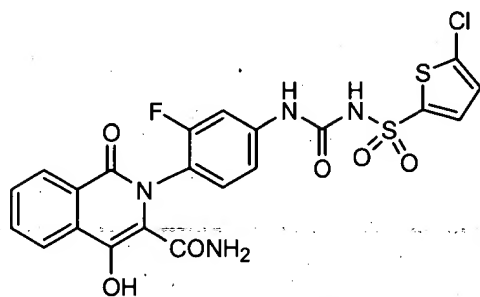
**Example 72**



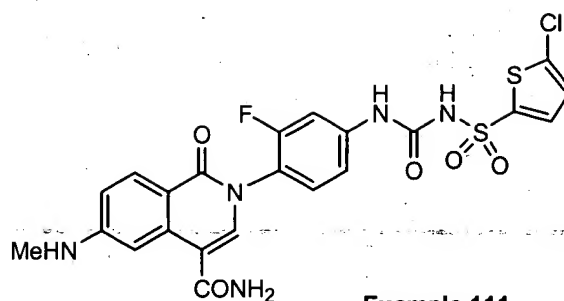
**Example 73**



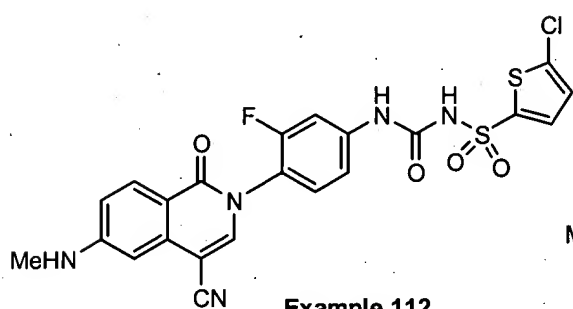
**Example 74**



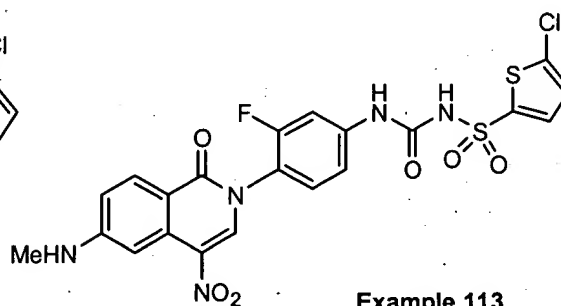
**Example 110**



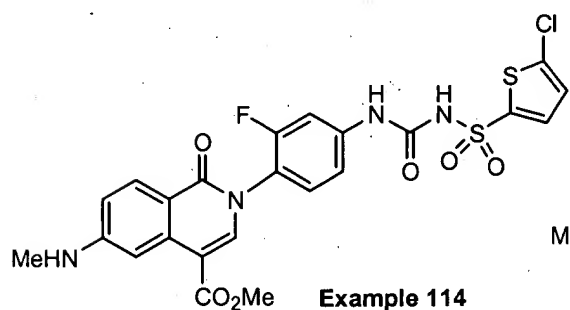
**Example 111**



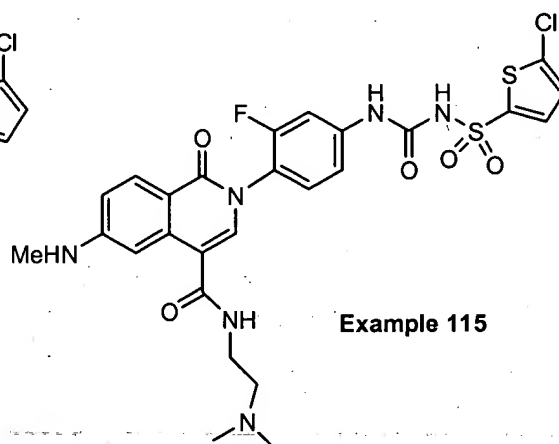
**Example 112**



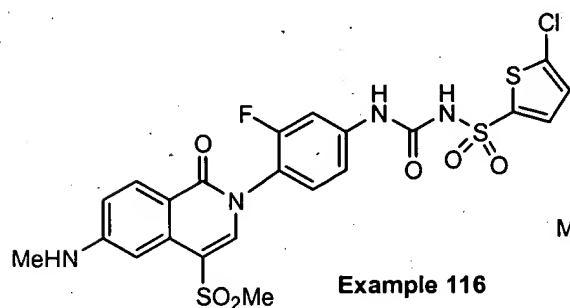
**Example 113**



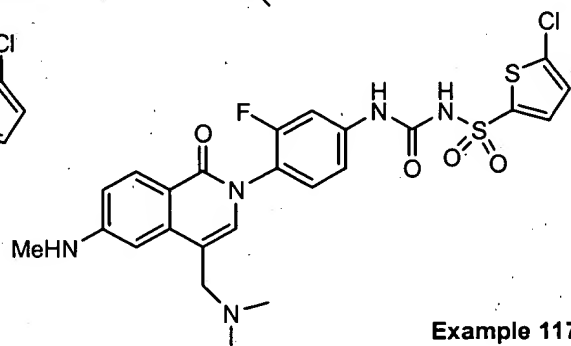
**Example 114**



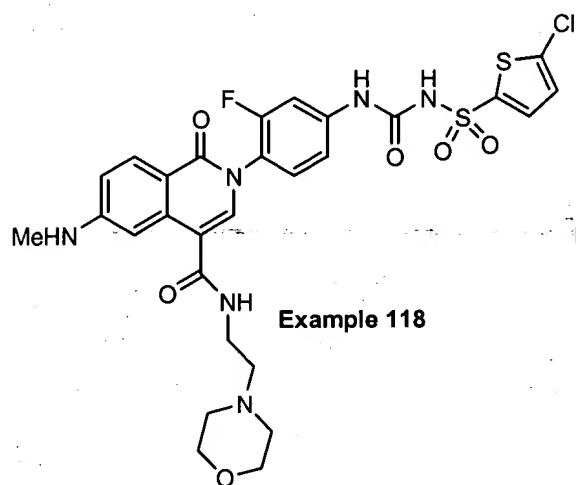
**Example 115**



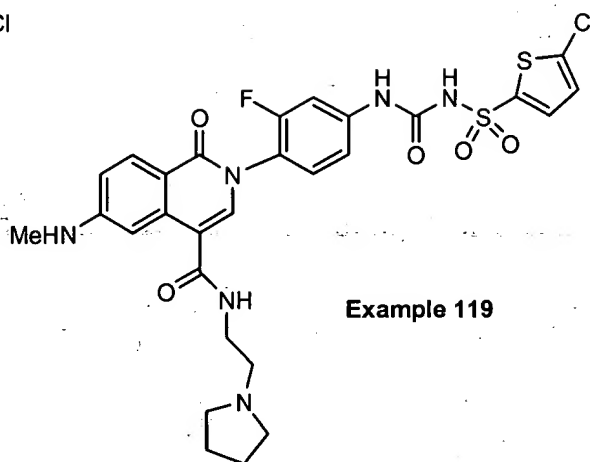
**Example 116**



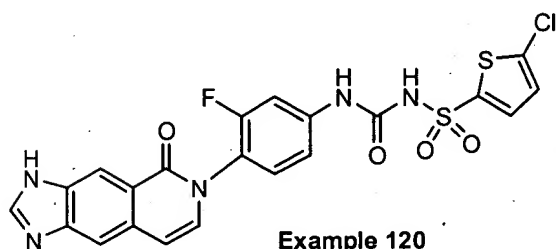
**Example 117**



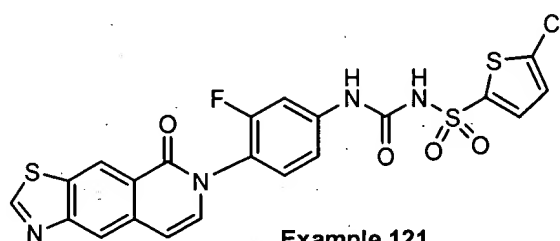
Example 118



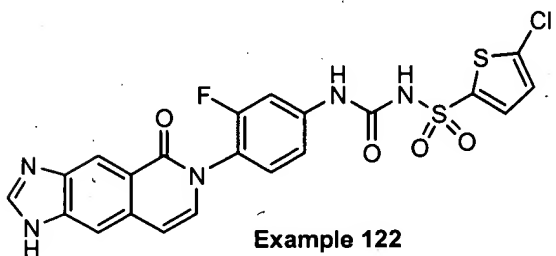
Example 119



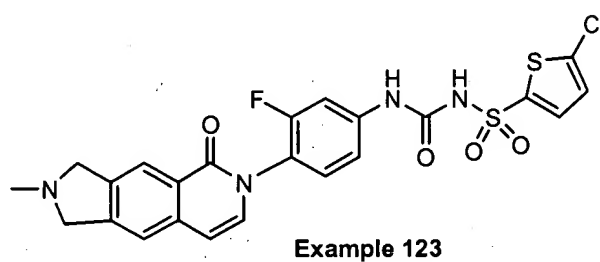
Example 120



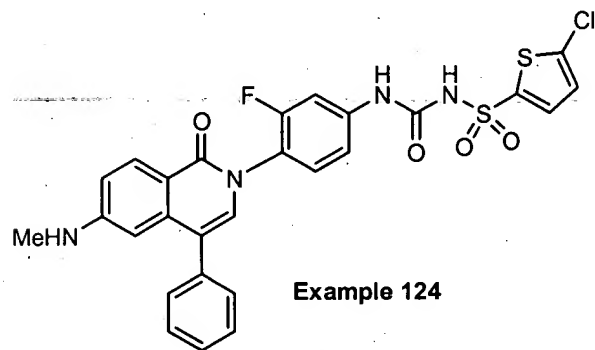
Example 121



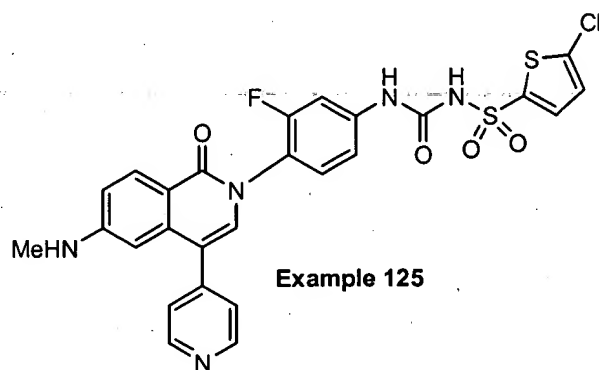
Example 122



Example 123

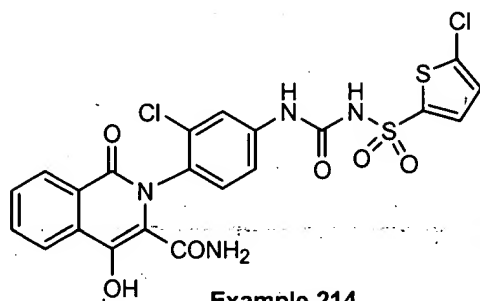


Example 124

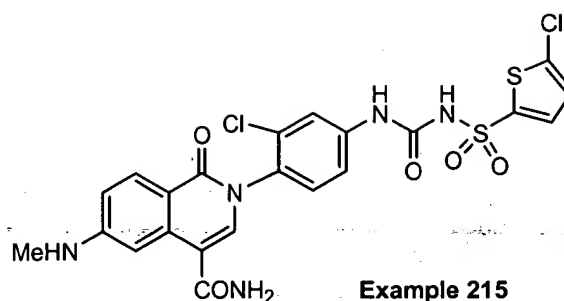


Example 125

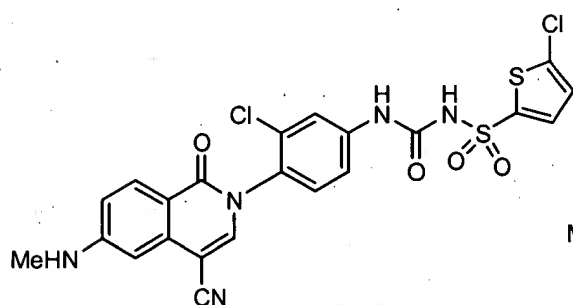




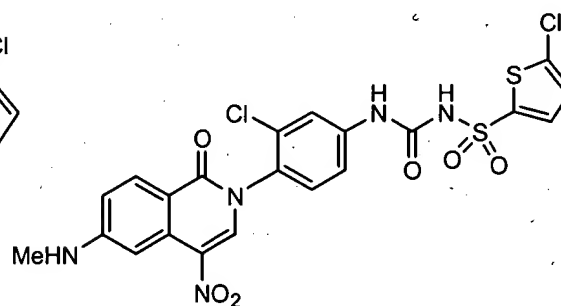
Example 214



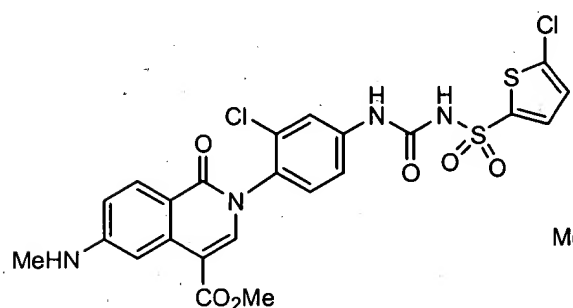
Example 215



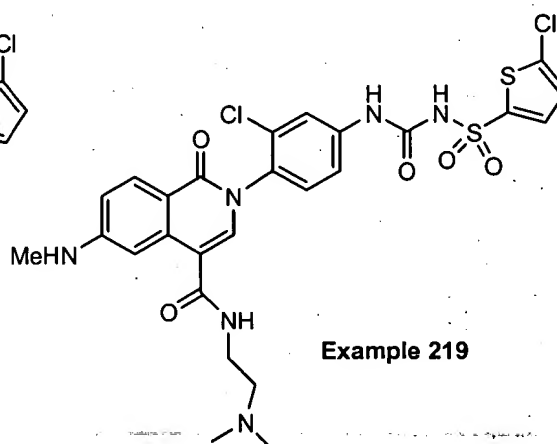
Example 216



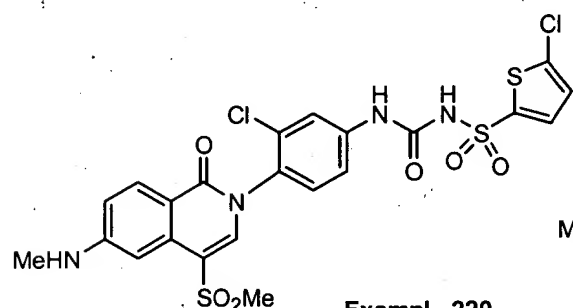
Example 217



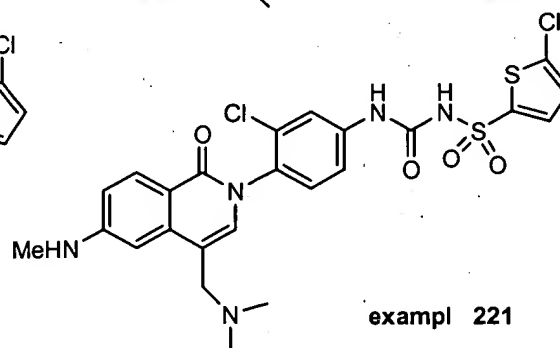
Example 218



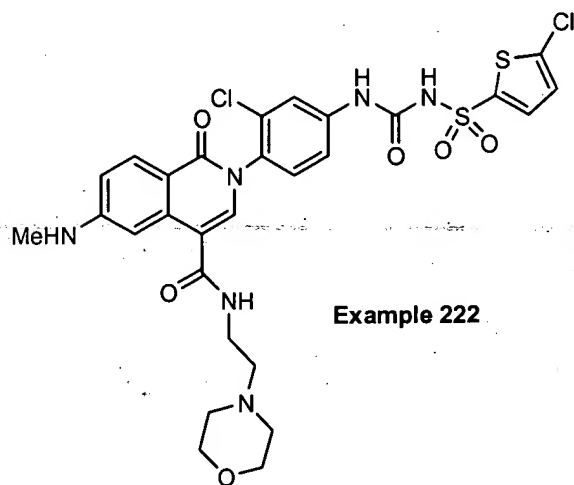
Example 219



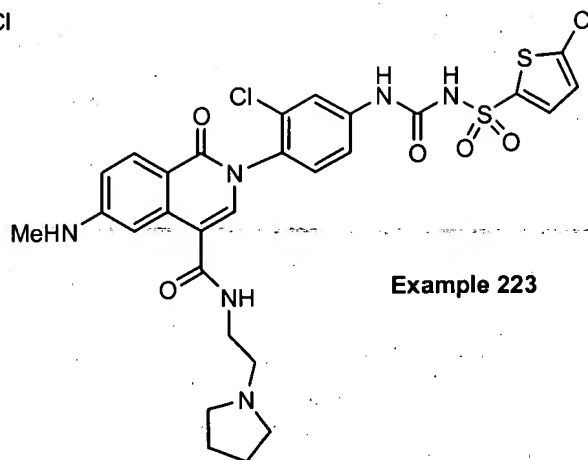
Exempl 220



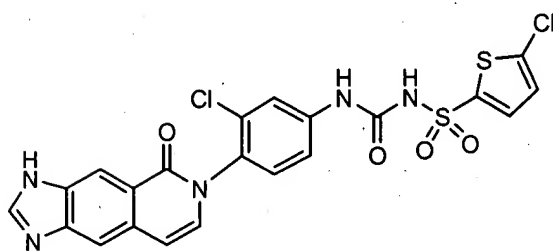
exempl 221



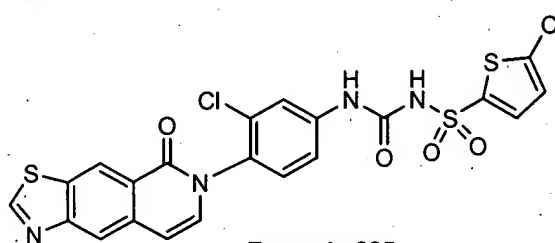
Example 222



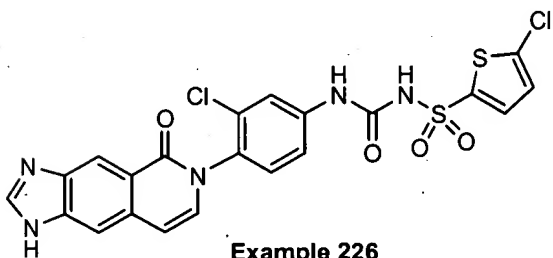
Example 223



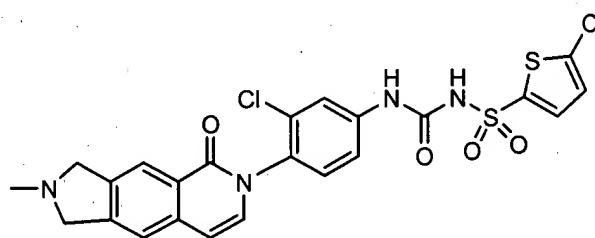
Example 224



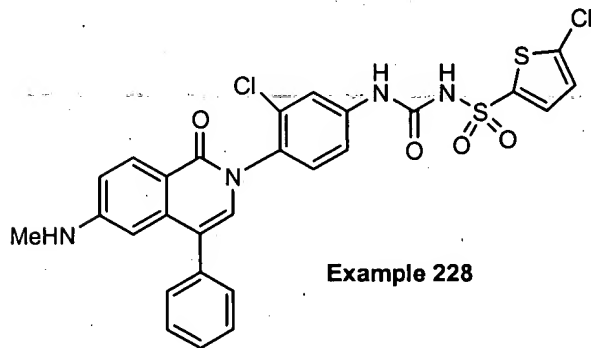
Example 225



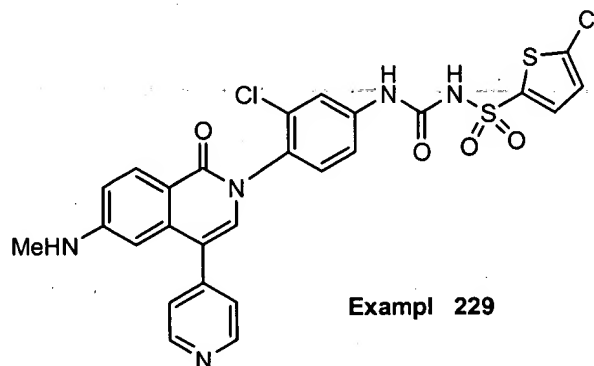
Example 226



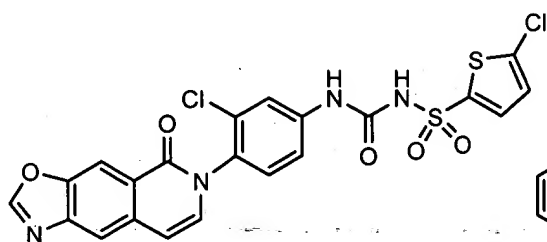
Example 227



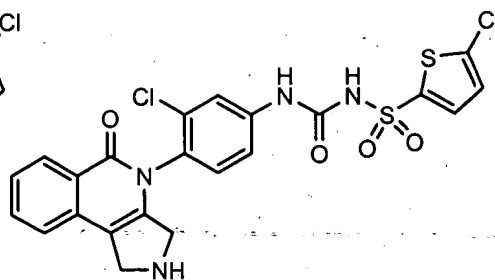
Example 228



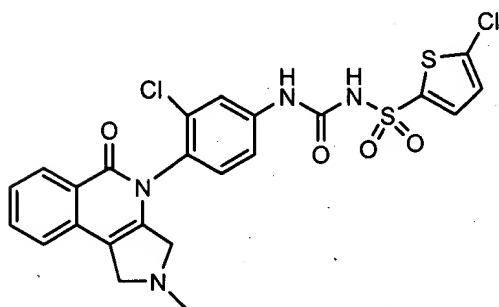
Exempl 229



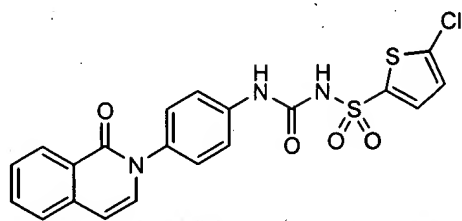
**Example 230**



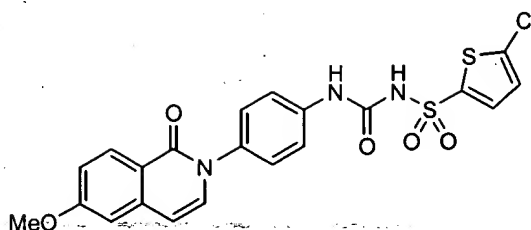
**Example 231**



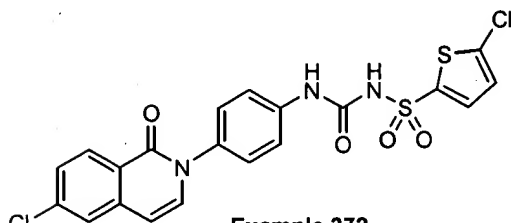
**Example 232**



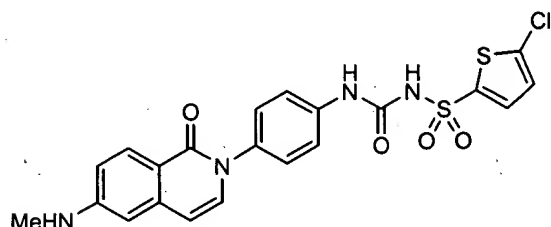
Example 370



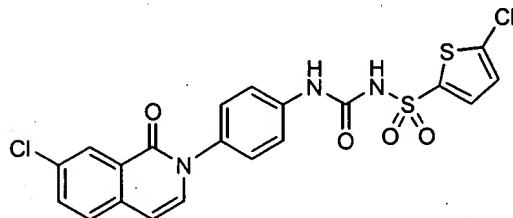
Example 371



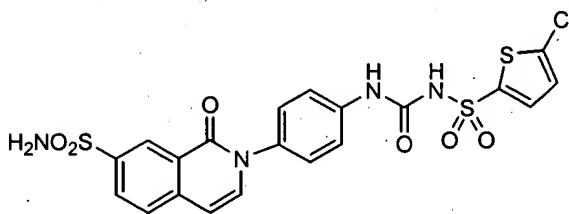
Example 372



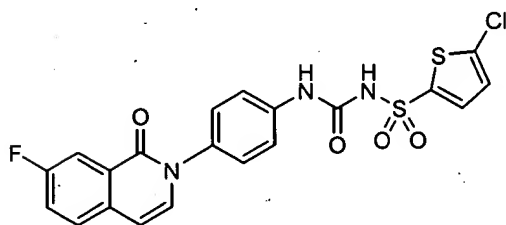
Example 373



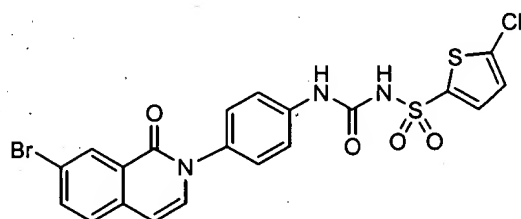
Example 374



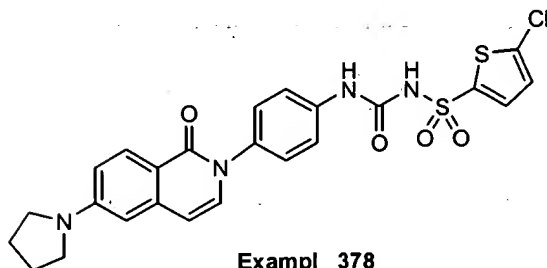
Example 375



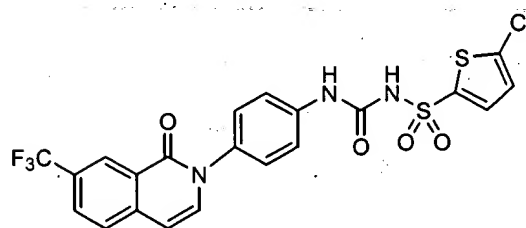
Example 376



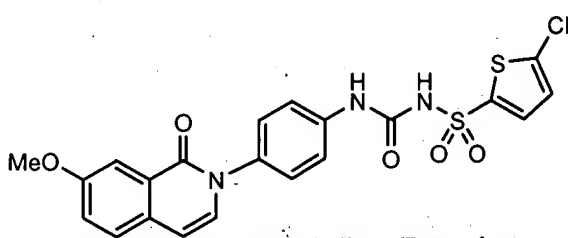
Example 377



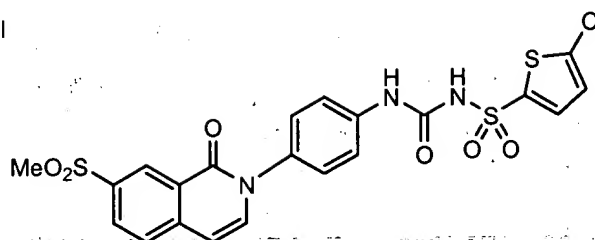
Examl 378



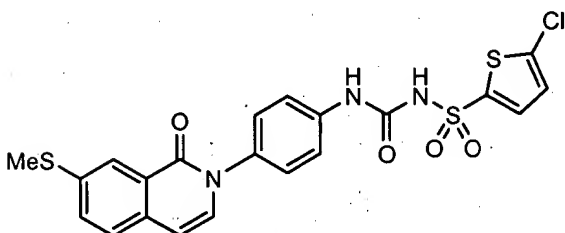
Examl 379



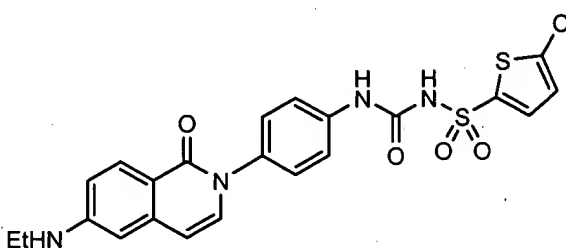
Example 380



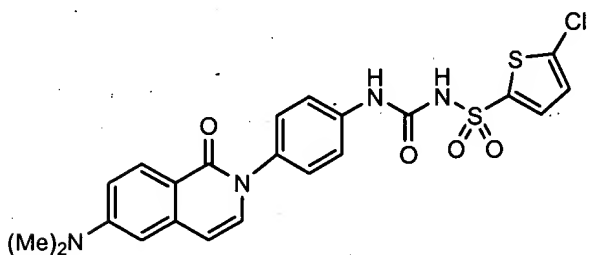
Example 381



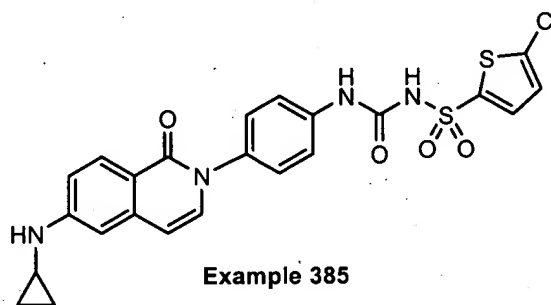
Example 382



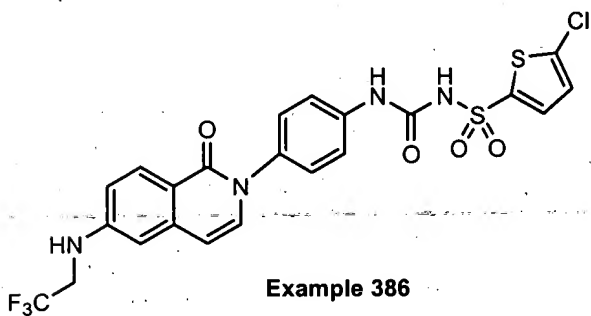
Example 383



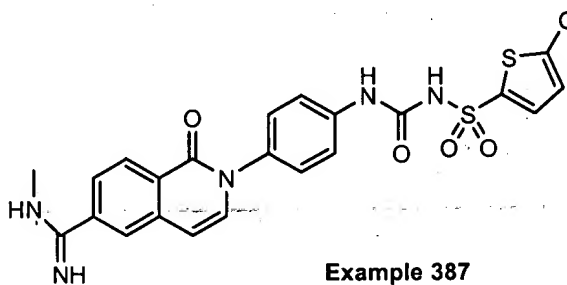
Example 384



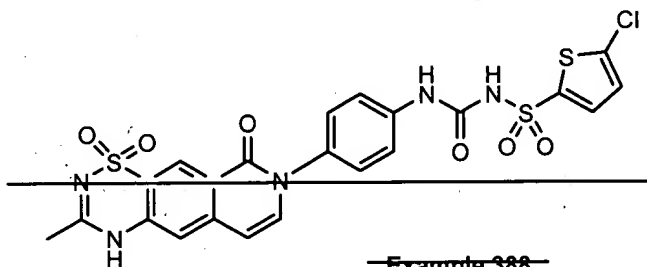
Example 385



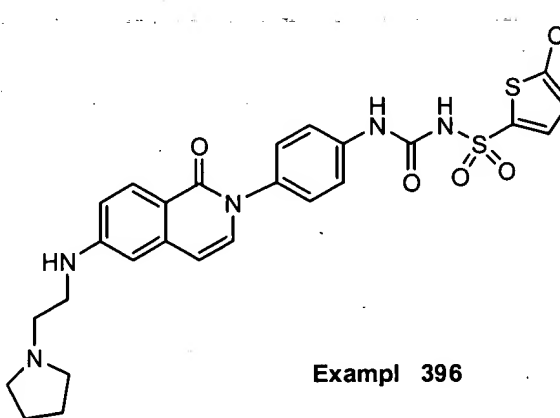
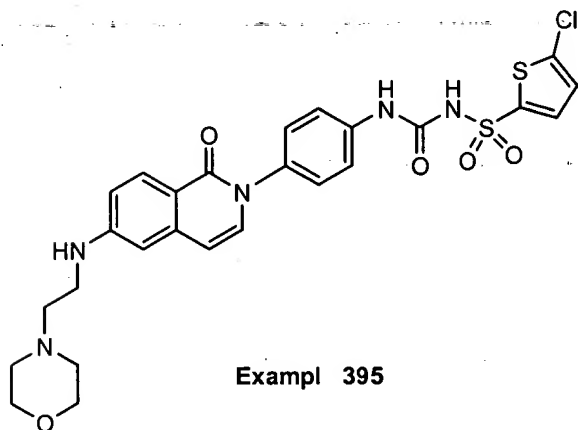
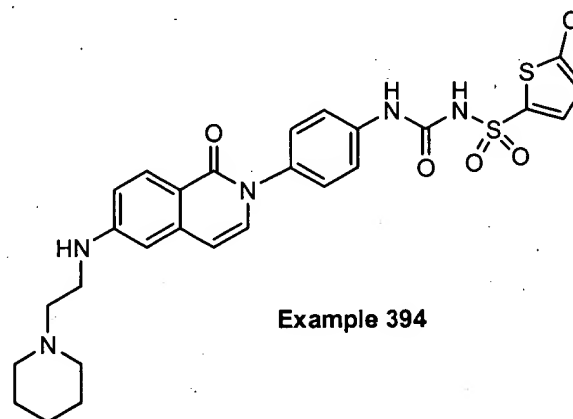
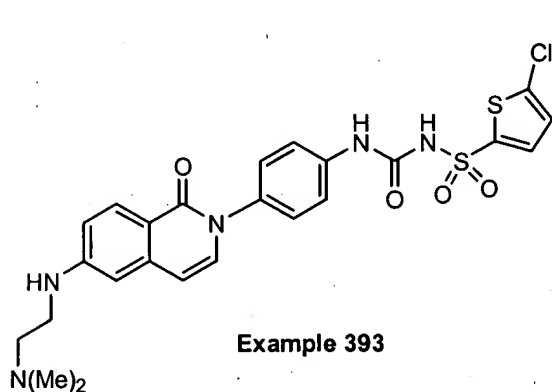
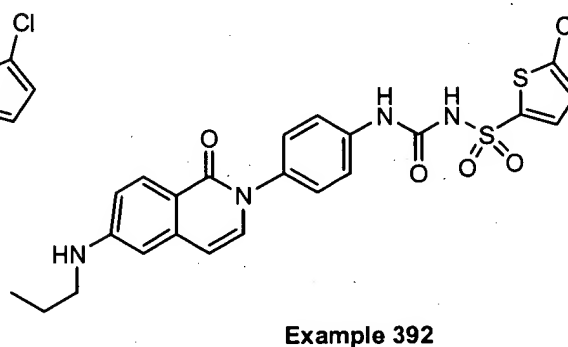
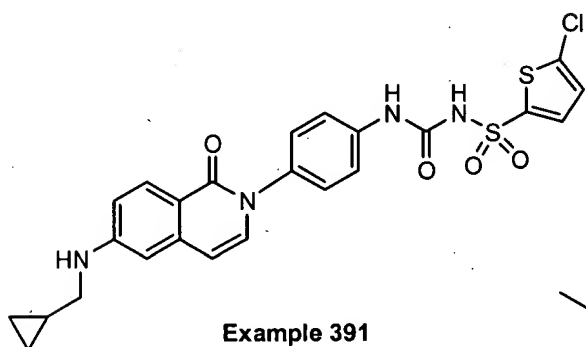
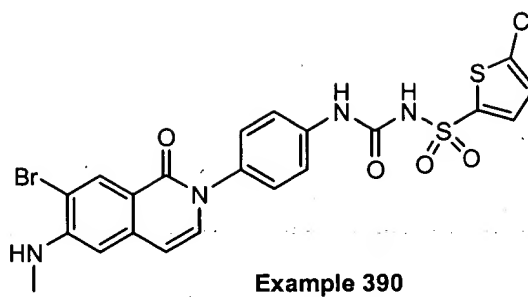
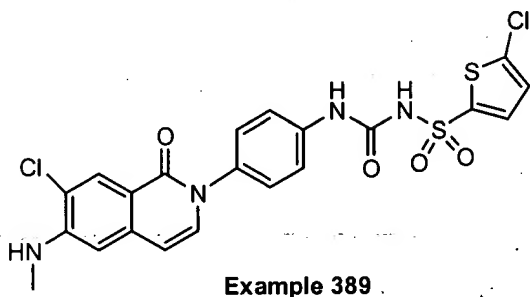
Example 386

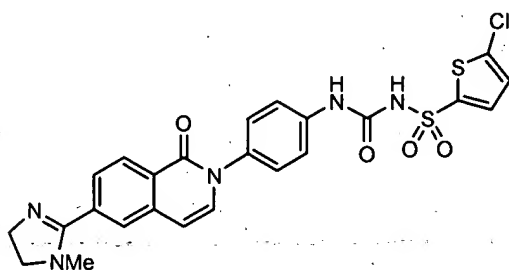


Example 387

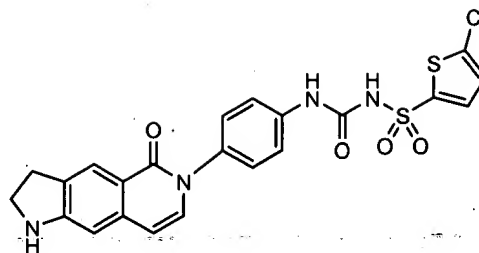


~~Example 388~~

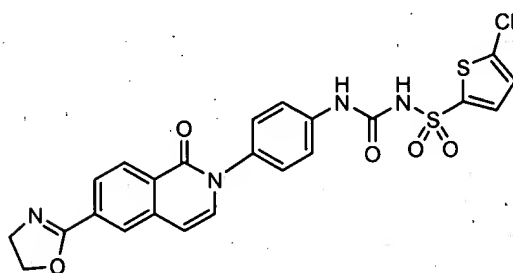




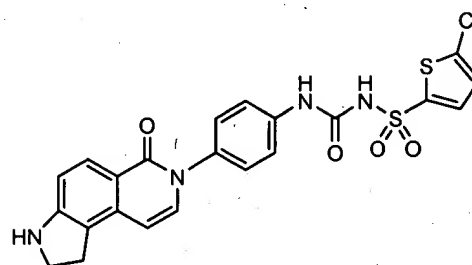
Example 397



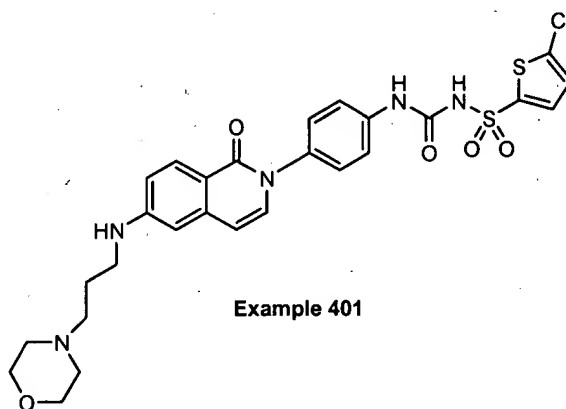
Example 398



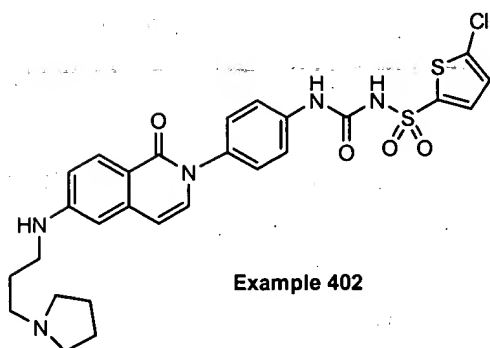
Example 399



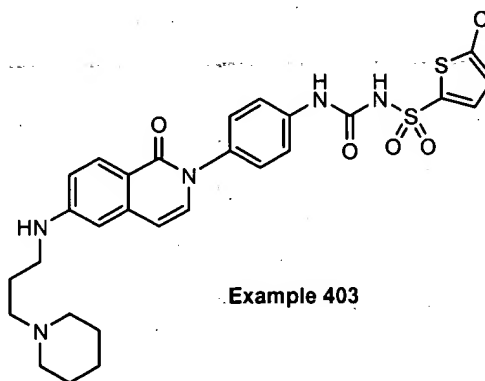
Example 400



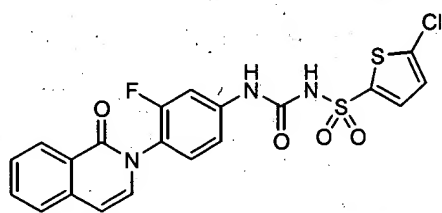
Example 401



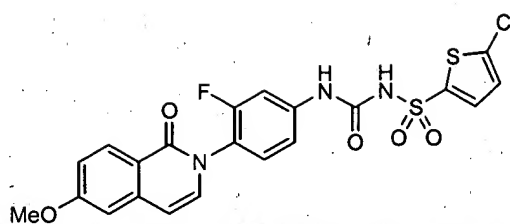
Example 402



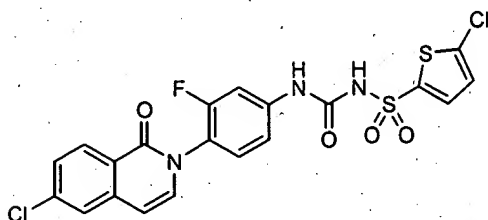
Example 403



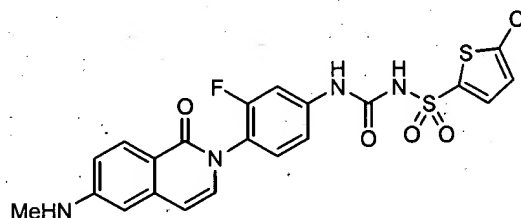
Example 404



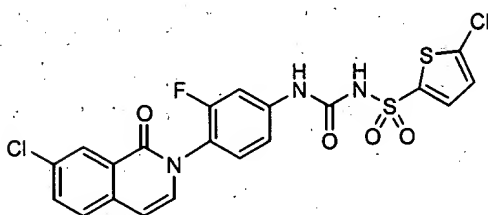
Example 405



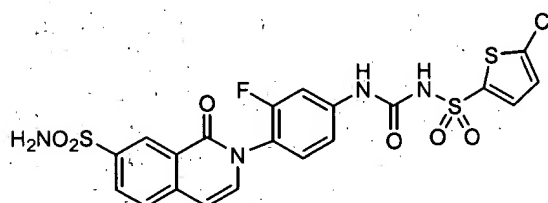
Example 406



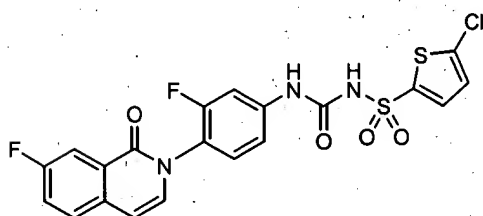
Example 407



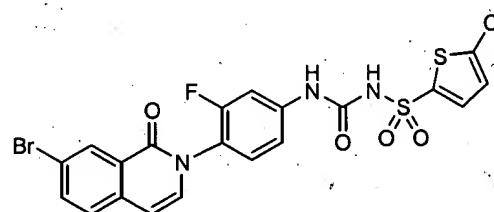
Example 408



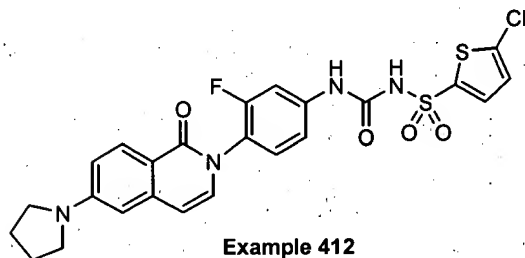
Example 409



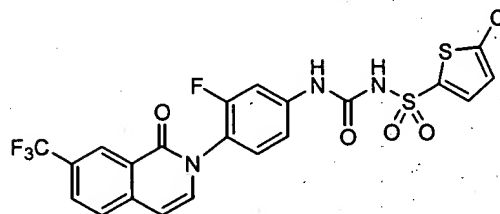
Example 410



Example 411

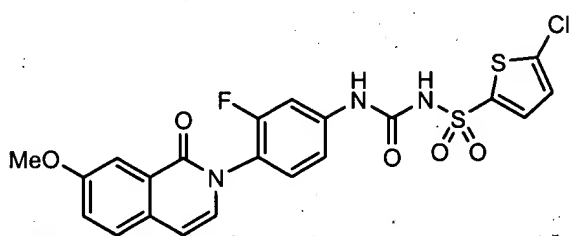


Example 412

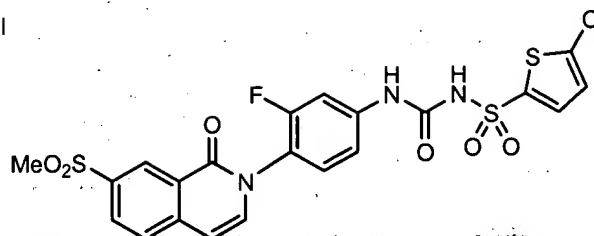


Examl 413

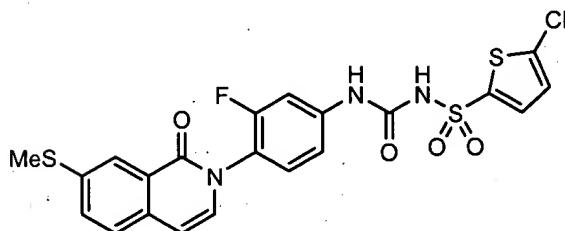




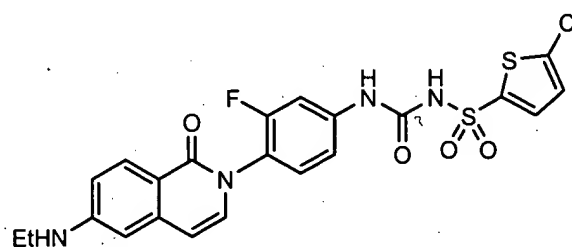
**Example 414**



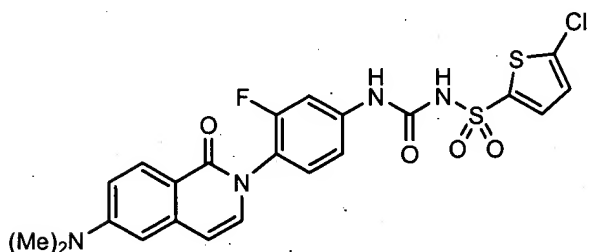
**Example 415**



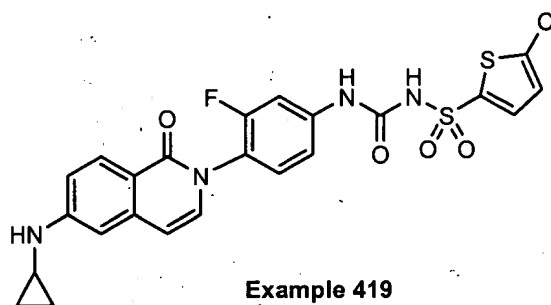
**Example 416**



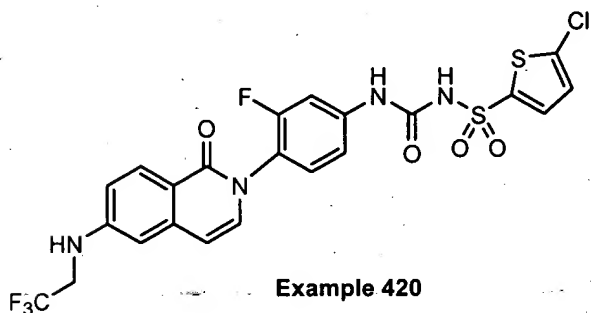
**Example 417**



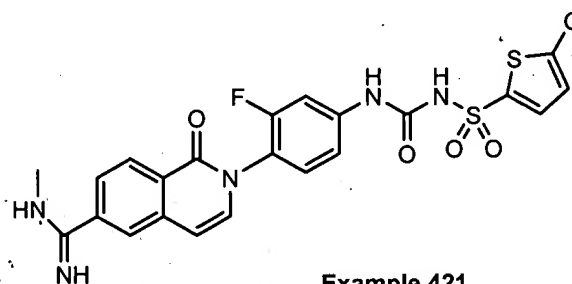
**Example 418**



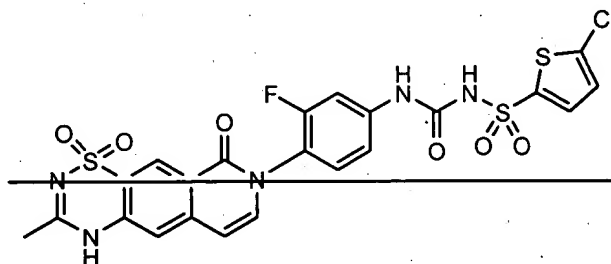
**Example 419**



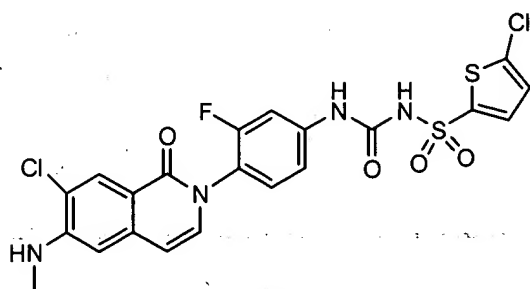
**Example 420**



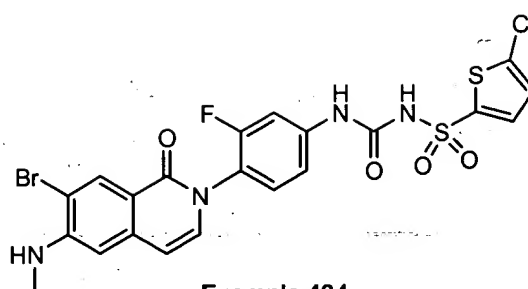
**Example 421**



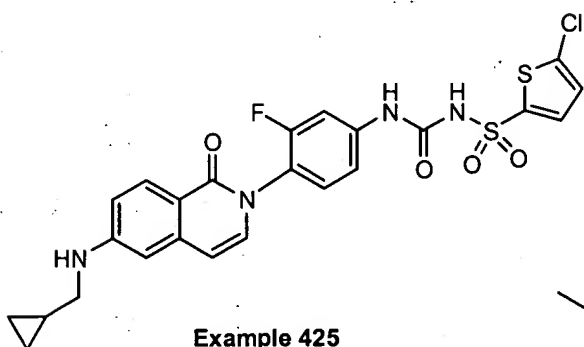
~~**Example 422**~~



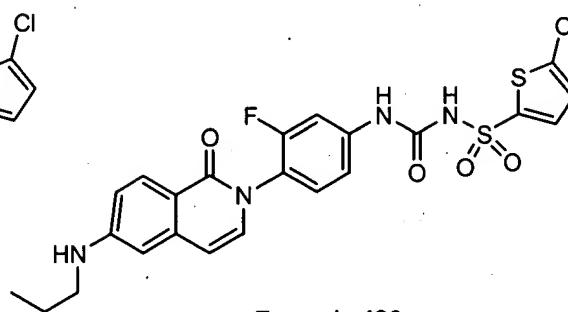
Example 423



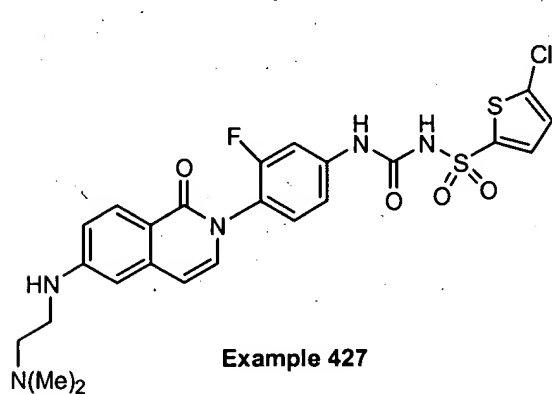
Example 424



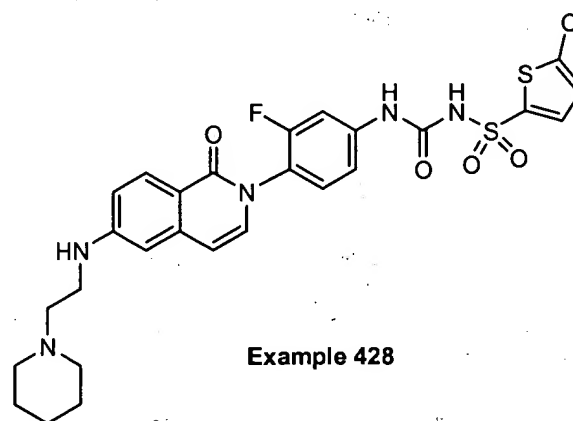
Example 425



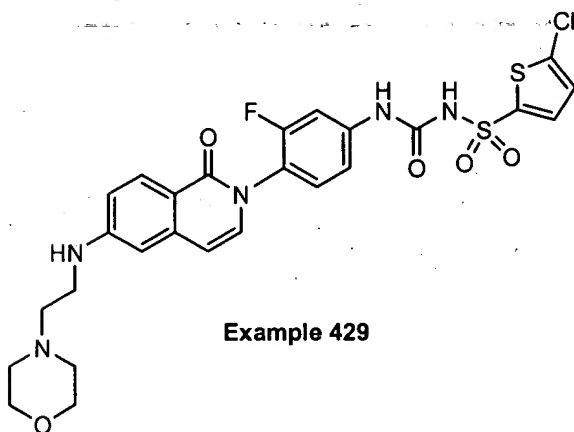
Example 426



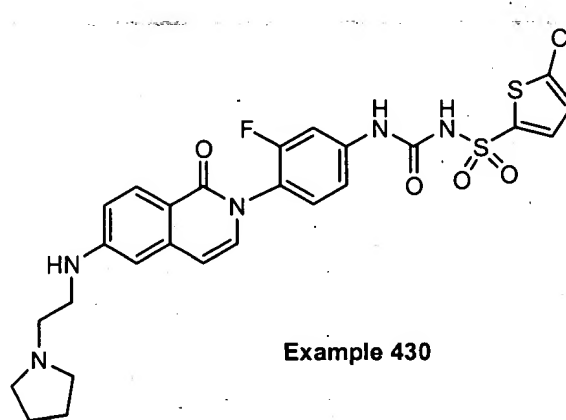
Example 427



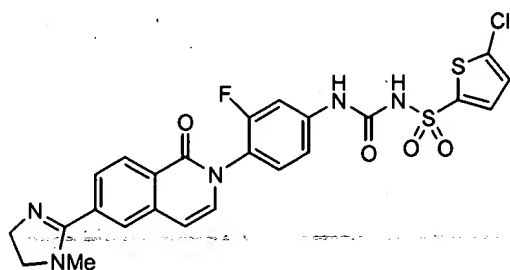
Example 428



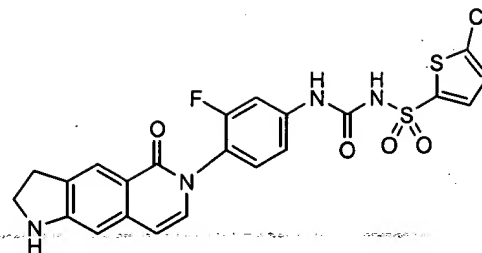
Example 429



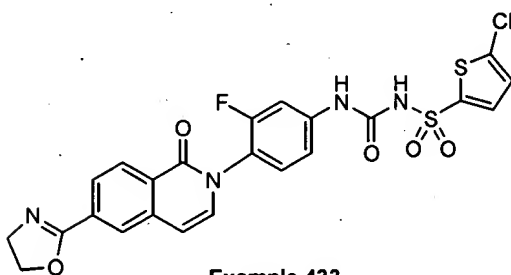
Example 430



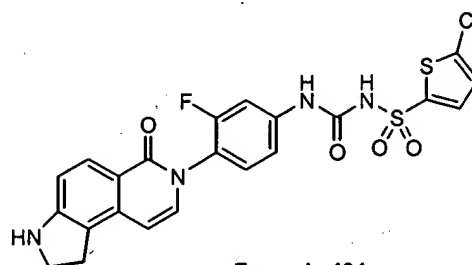
Example 431



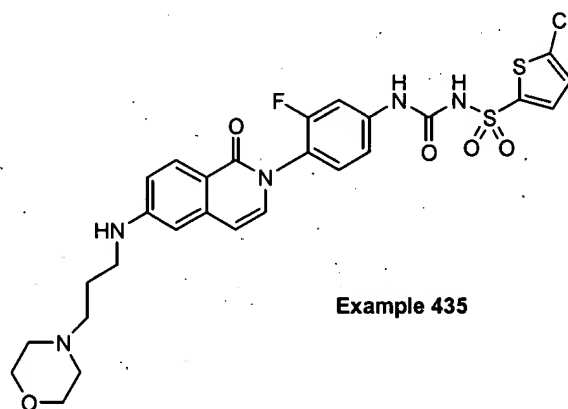
Example 432



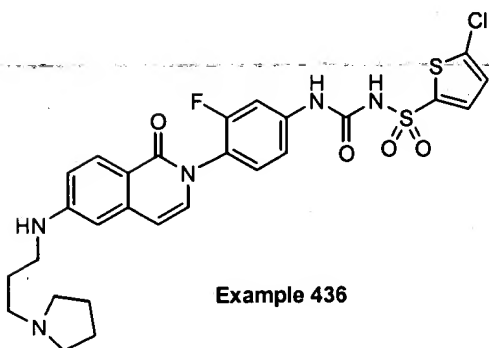
Example 433



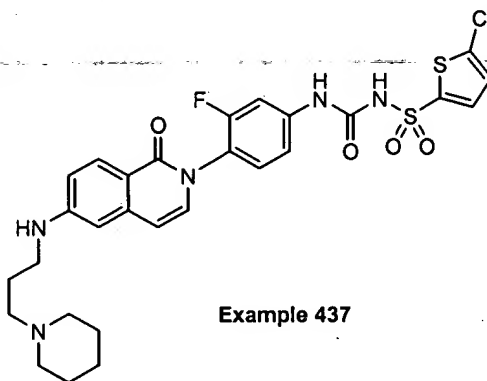
Example 434



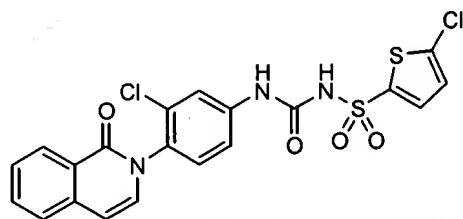
Example 435



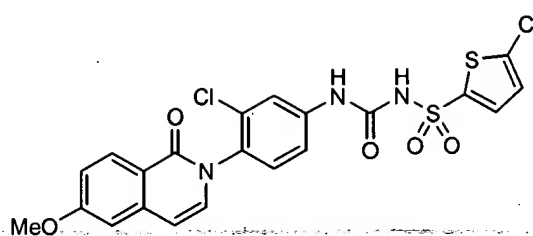
Example 436



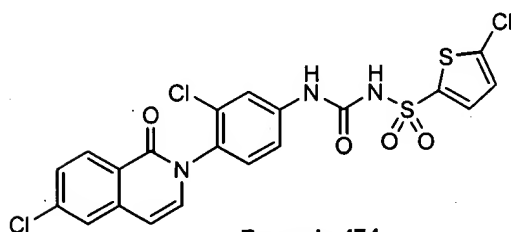
Example 437



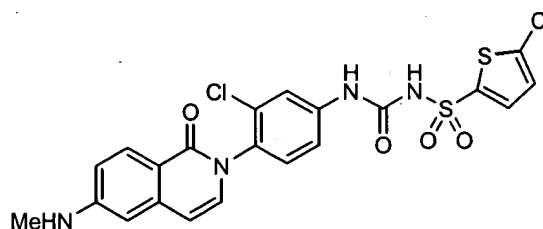
**Example 472**



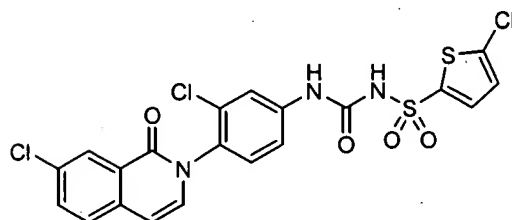
**Example 473**



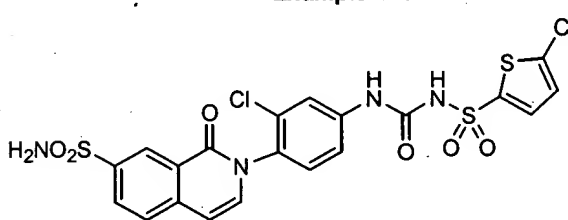
**Example 474**



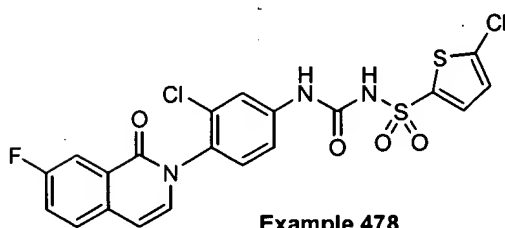
**Example 475**



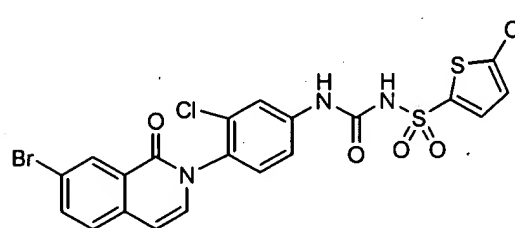
**Example 476**



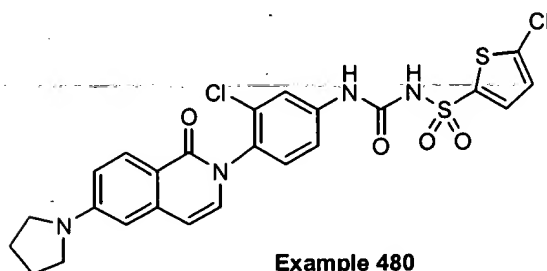
**Example 477**



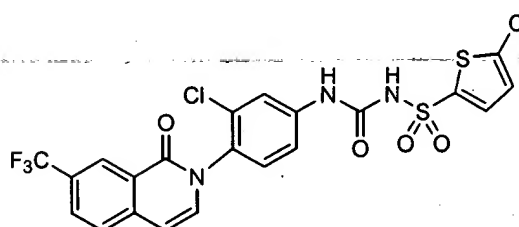
**Example 478**



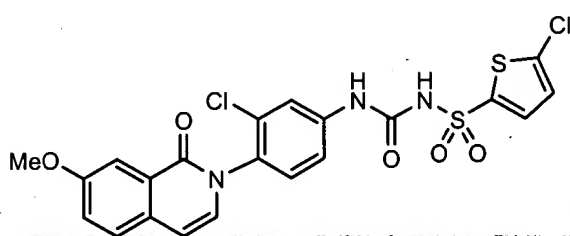
**Example 479**



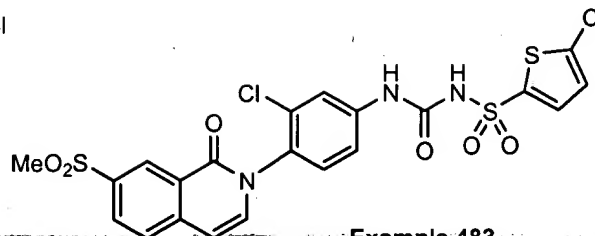
**Example 480**



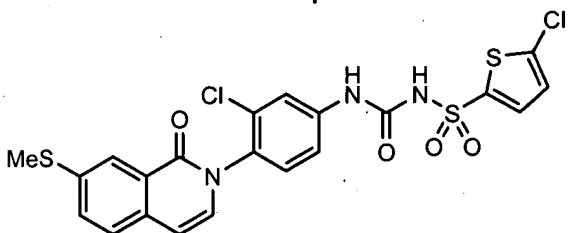
**Example 481**



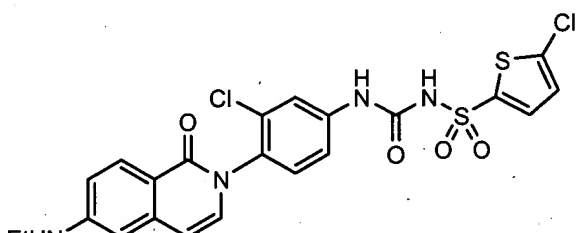
**Example 482**



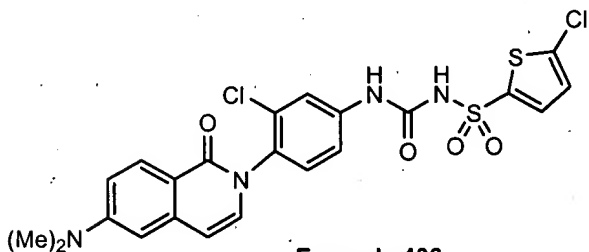
**Example 483**



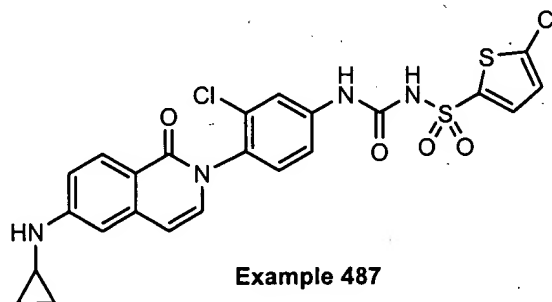
**Example 484**



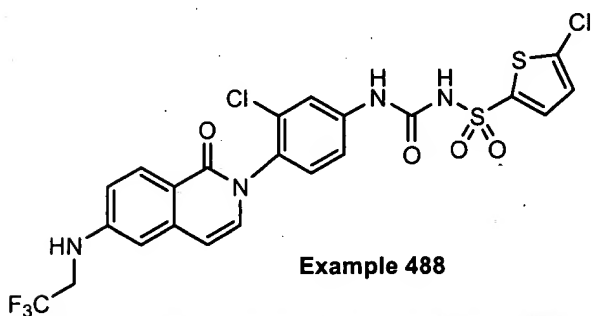
**Example 485**



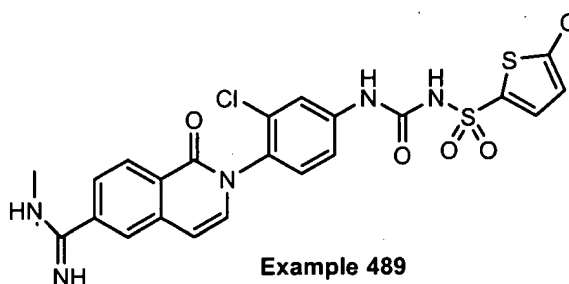
**Example 486**



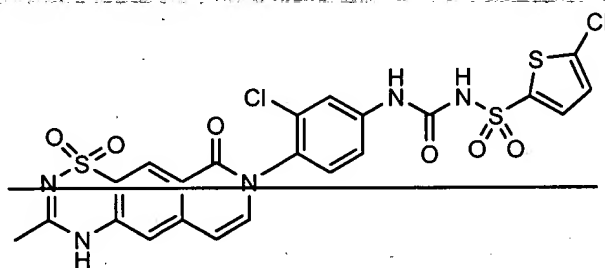
**Example 487**



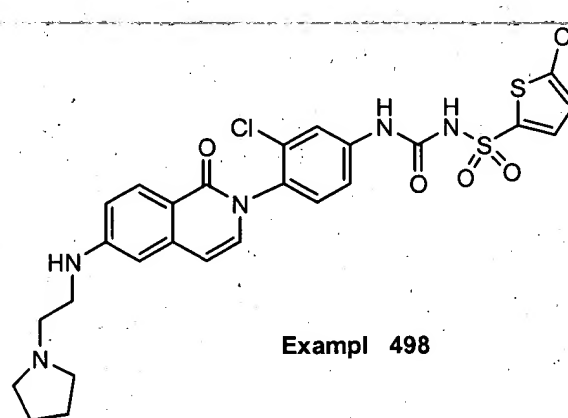
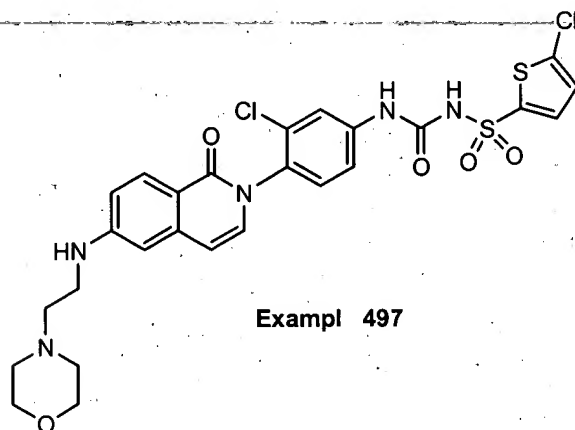
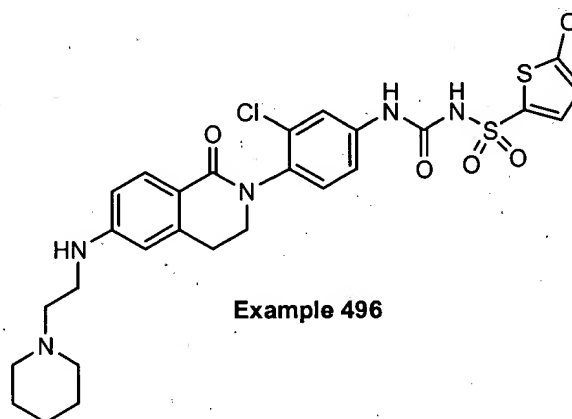
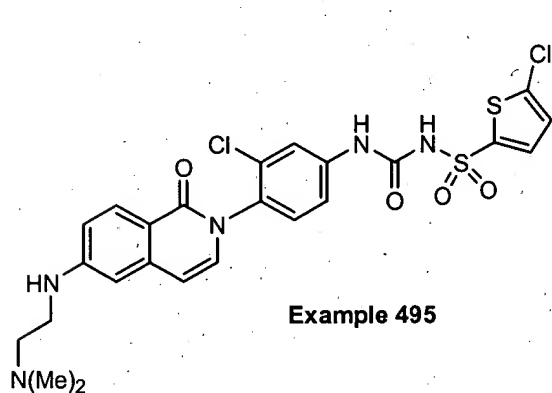
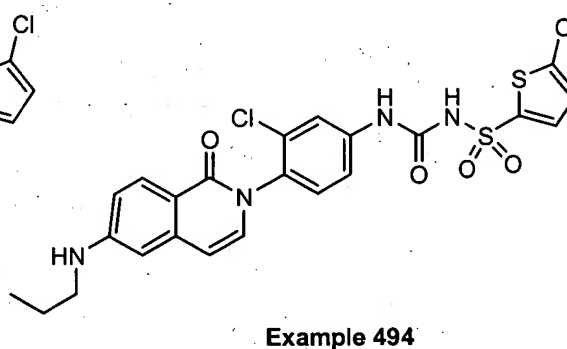
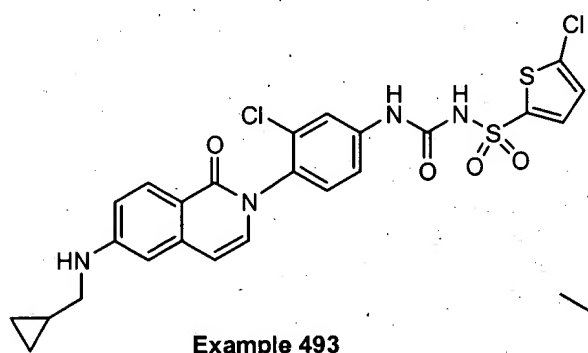
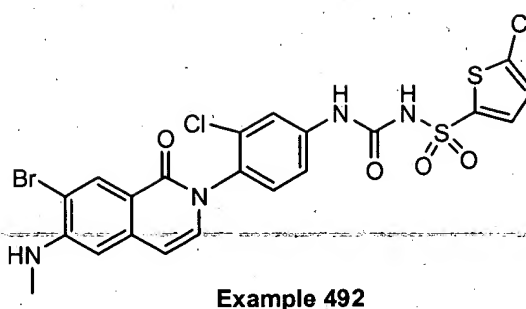
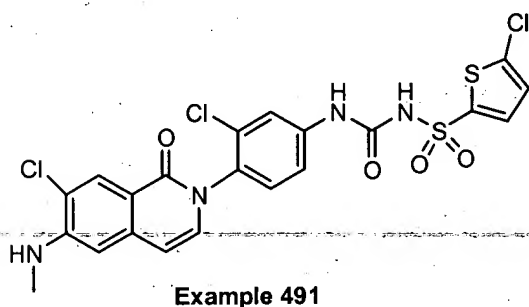
**Example 488**

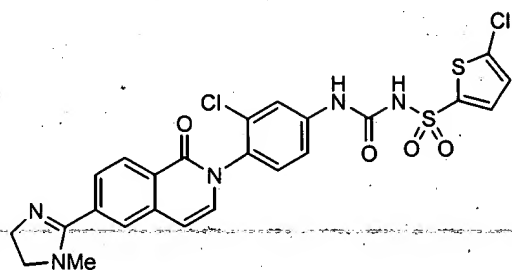


**Example 489**

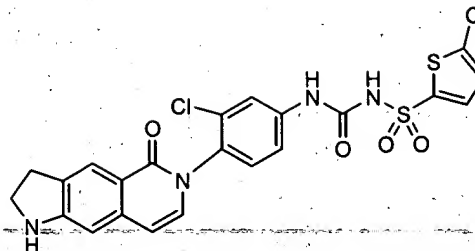


~~**Example 490**~~

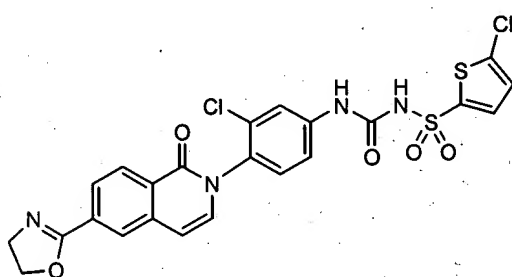




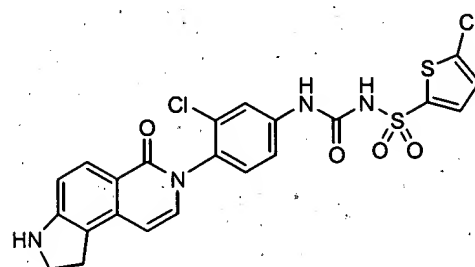
Example 499



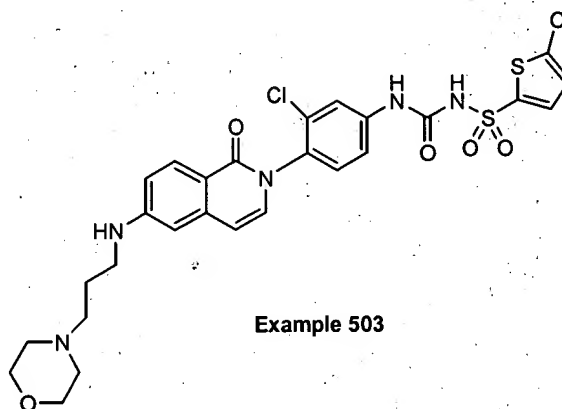
Example 500



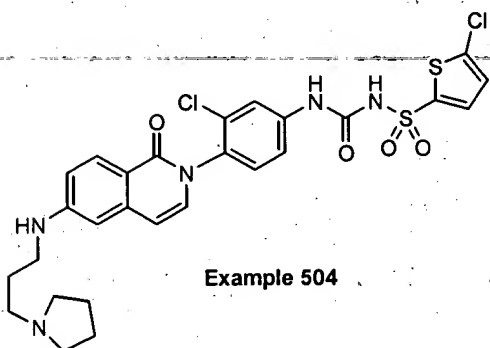
Example 501



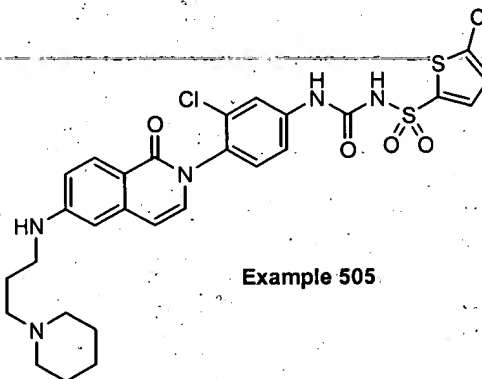
Example 502



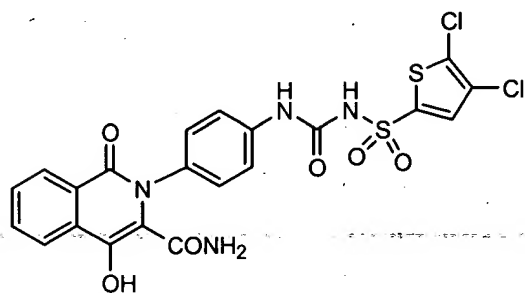
Example 503



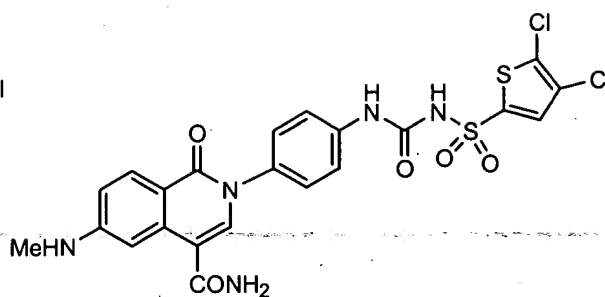
Example 504



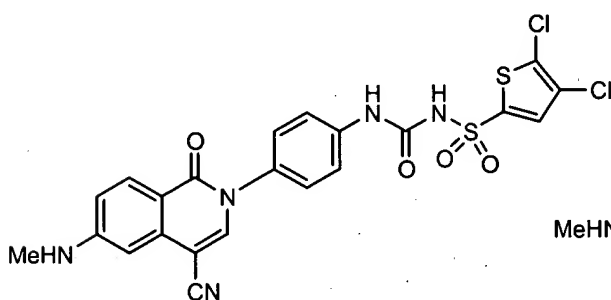
Example 505



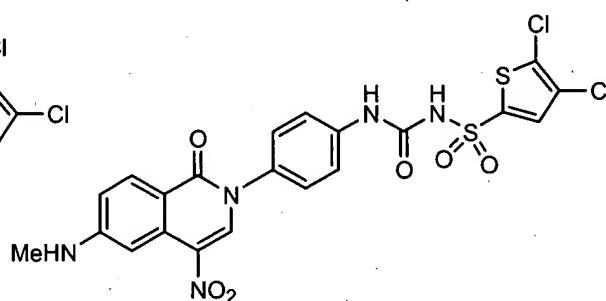
Example 769



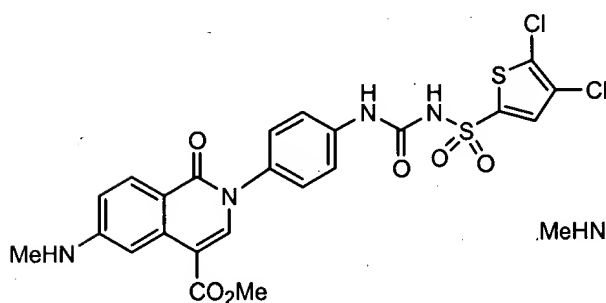
Example 770



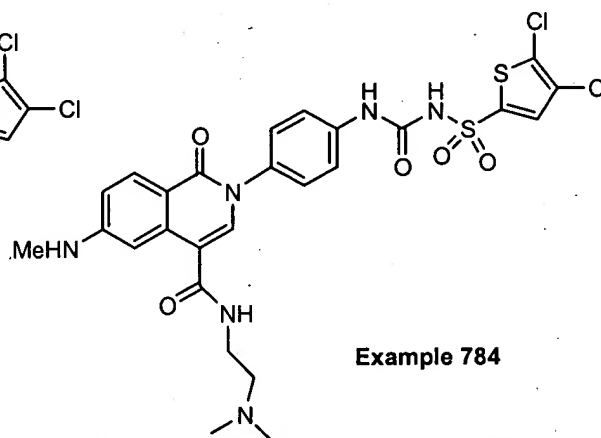
Example 781



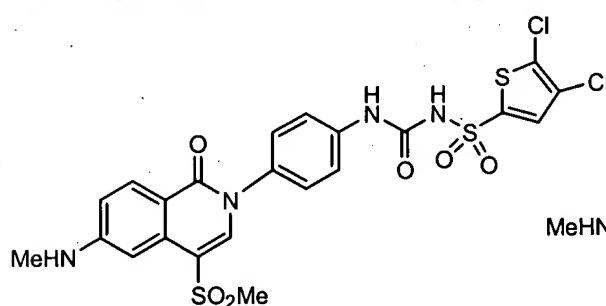
Example 782



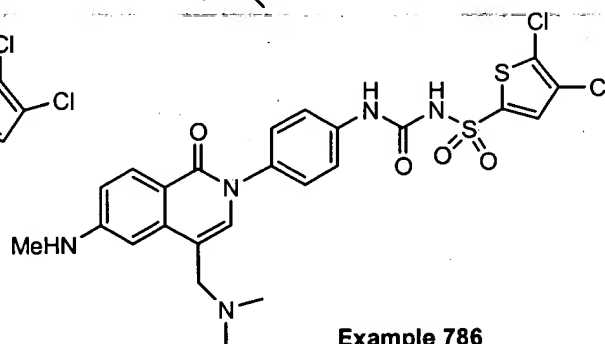
Example 783



Example 784

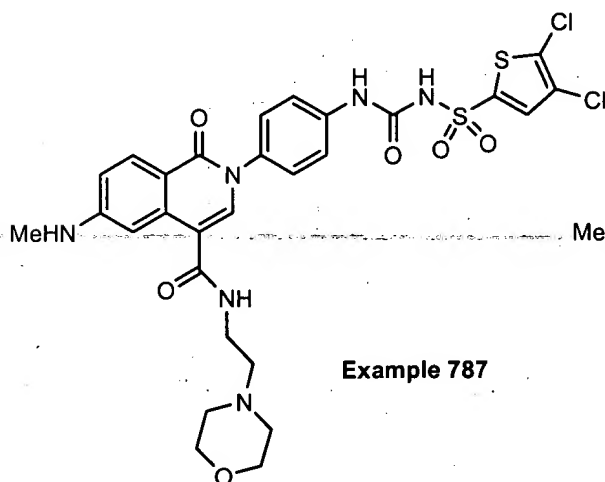


Example 785

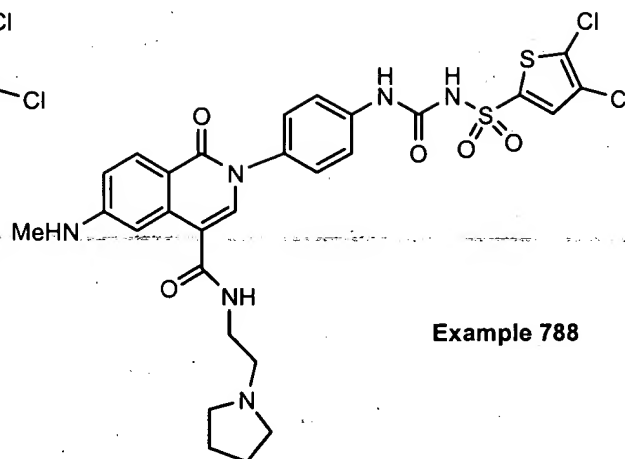


Example 786

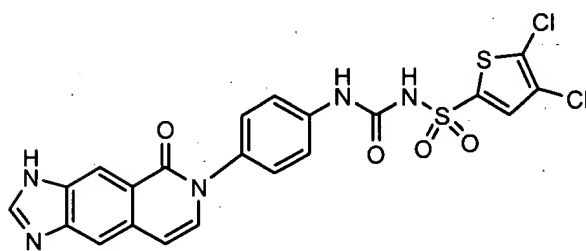




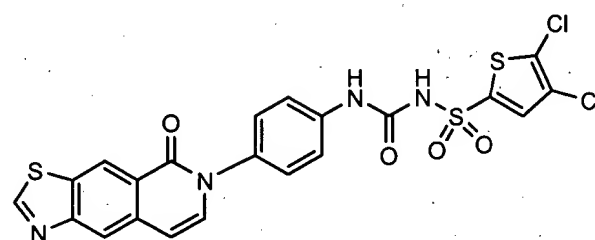
Example 787



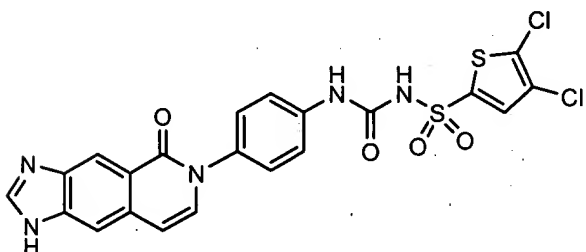
Example 788



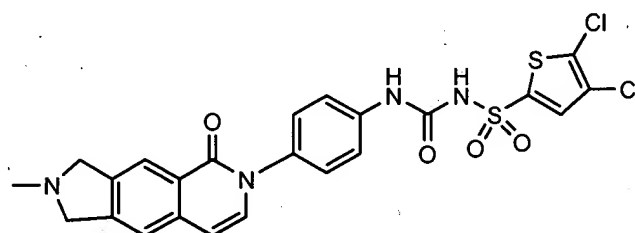
Example 789



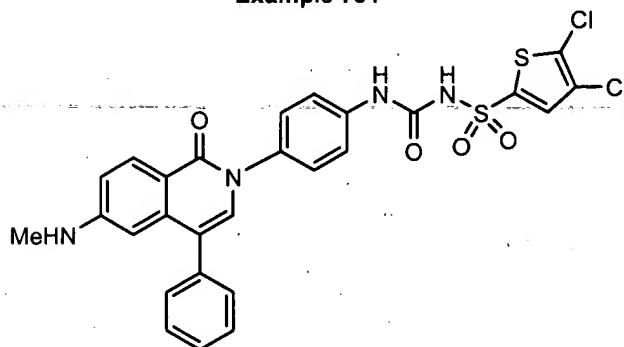
Example 790



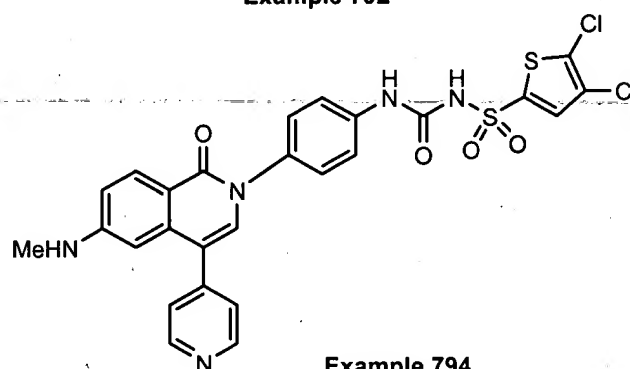
Example 791



Example 792



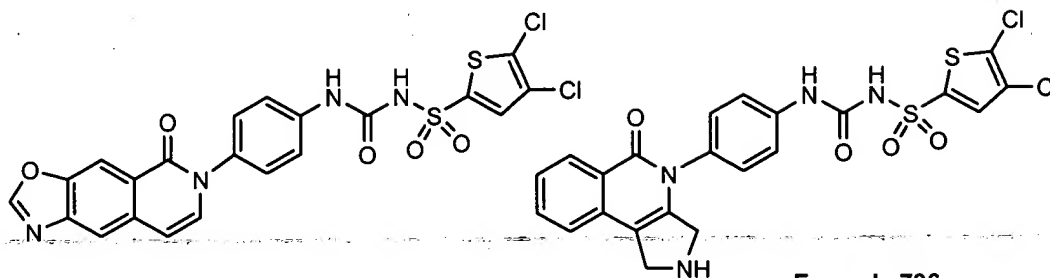
Example 793



Example 794

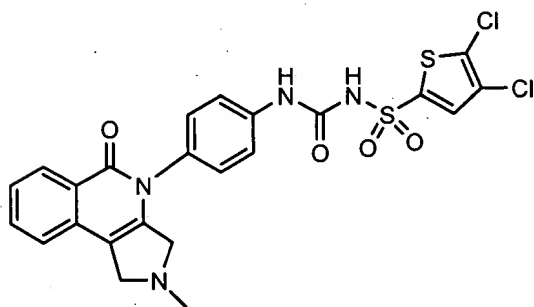
Appl. No. 09/920,325  
Amdt. dated November 13, 2003  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group 1624

PATENT

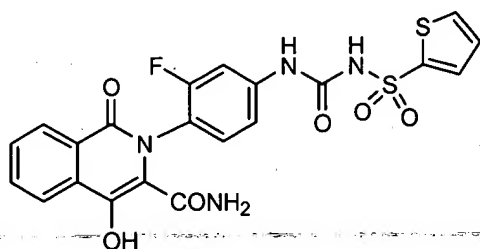


**Example 795**

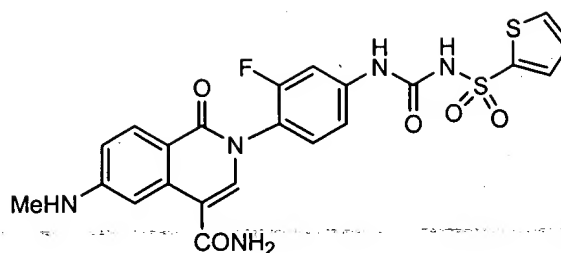
**Example 796**



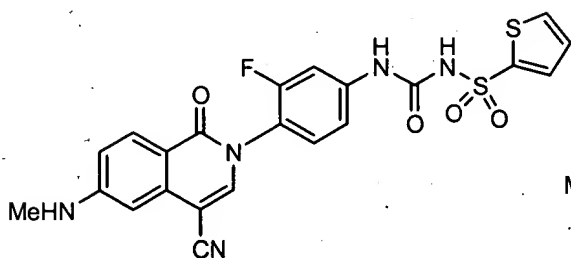
**Example 797**



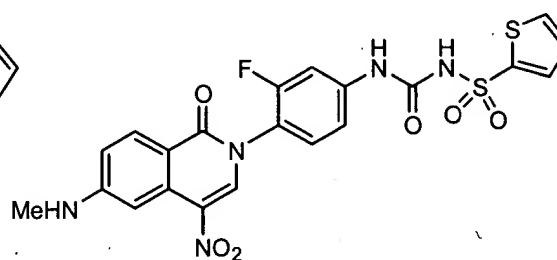
**Example 833**



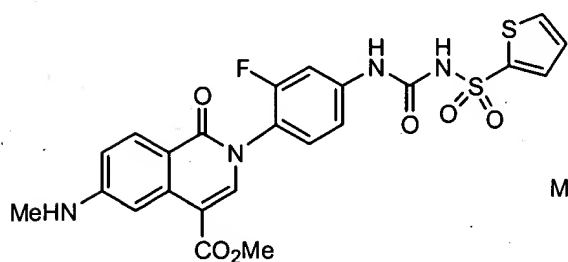
**Example 834**



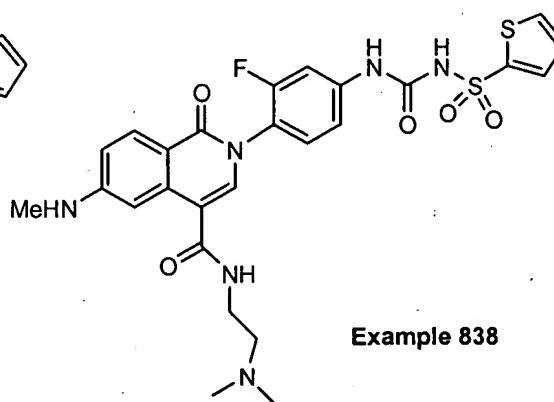
**Example 835**



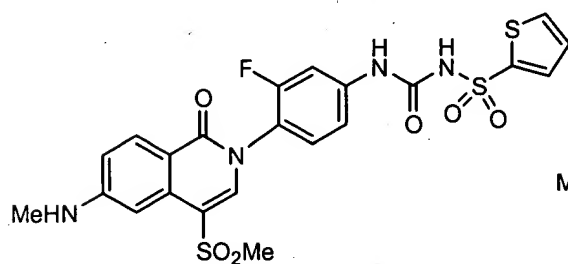
**Example 836**



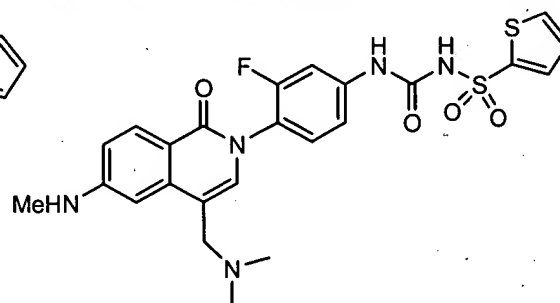
**Example 837**



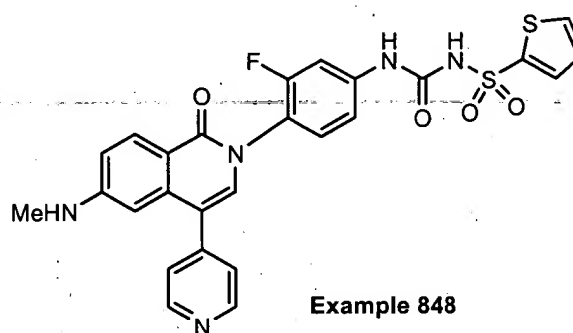
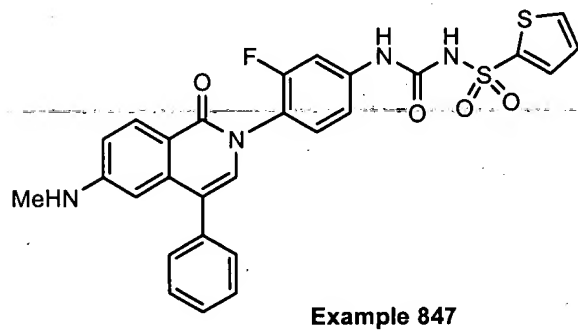
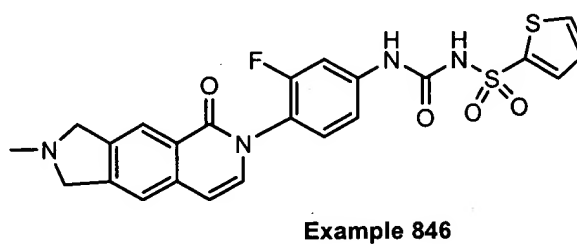
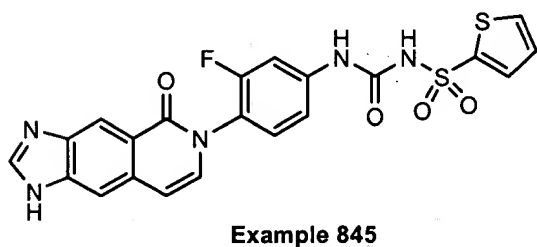
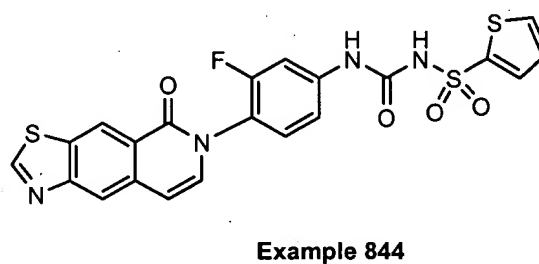
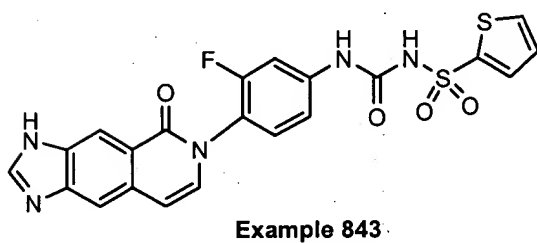
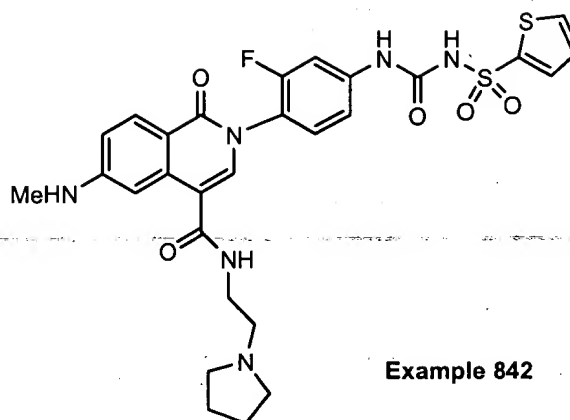
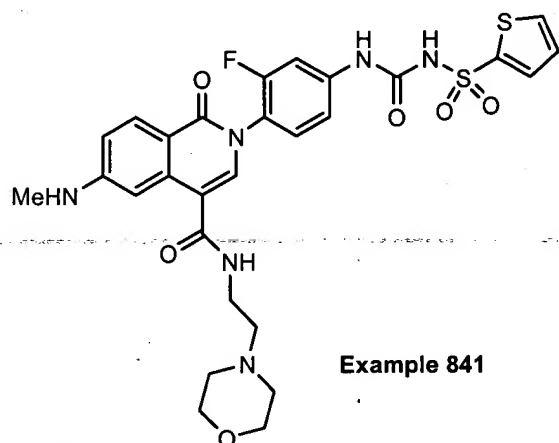
**Example 838**

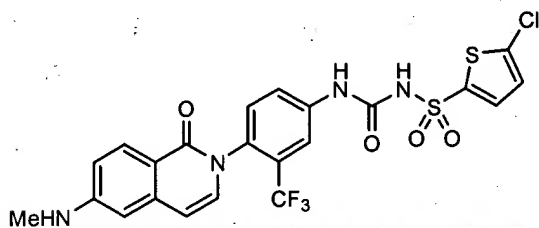


**Example 839**

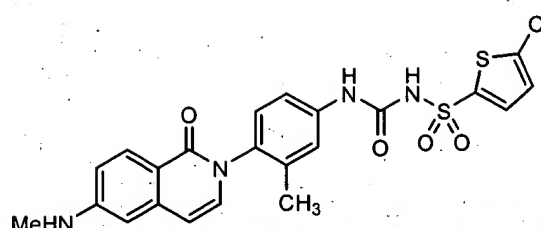


**Example 840**

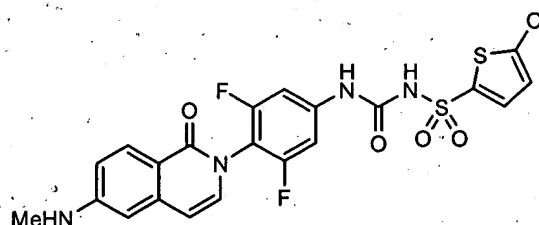




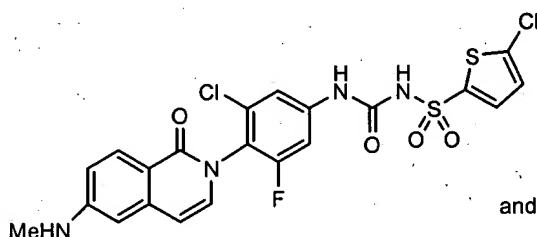
Example 933



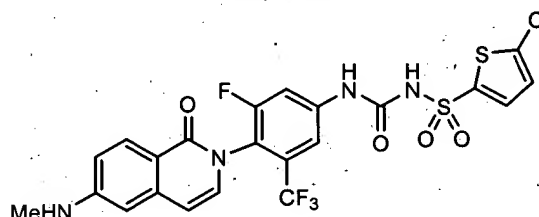
Example 934



Example 936



Example 937



Example 938

26. (Currently amended) A pharmaceutical composition **for treating thrombosis in a mammal** comprising a therapeutically effective amount of a compound according to claim 23, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

27. (Canceled) A pharmaceutical composition of claim 26, wherein said therapeutically effective amount is an amount effective to inhibit platelet aggregation in the mammal.

28. (Canceled) A pharmaceutical composition of claim 27, wherein said platelet aggregation is ADP-dependent aggregation.

29. (Canceled) A pharmaceutical composition of claims 26 and 28, wherein said mammal is a human.

30. (Canceled) A pharmaceutical composition of claim 26, wherein said compound is an effective inhibitor of [<sup>3</sup>H]2-MeS-ADP binding to platelet ADP receptors.

31. (Currently amended) A pharmaceutical composition **for treating thrombosis in a mammal** comprising a therapeutically effective amount of a compound according to claims 24-25, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

32. (Canceled) A pharmaceutical composition of claim 31, wherein said therapeutically effective amount is an amount effective to inhibit platelet aggregation in the mammal.

33. (Canceled) A pharmaceutical composition of claim 32, wherein said platelet aggregation is ADP-dependent aggregation.

34. (Canceled) A pharmaceutical composition of claims 30 and 33, wherein said mammal is a human.

35. (Canceled) A pharmaceutical composition of claim 31, wherein said compound is an effective inhibitor of [<sup>3</sup>H]2-MeS-ADP binding to platelet ADP receptors.

36. (Original) A method for treating thrombosis in a mammal comprising the step of administering to a mammal a therapeutically effective amount of a compound of claim 23 or a pharmaceutically acceptable salt thereof.

37. (Original) A method of claim 36, wherein said mammal is a human.

38. (Original) A method of claim 36, wherein said thrombosis is indicated by at least one selected from the group consisting of acute myocardial infarction, unstable angina, chronic stable angina, transient ischemic attacks, strokes, peripheral vascular disease, preeclampsia/eclampsia, deep venous thrombosis, embolism, disseminated intravascular coagulation and thrombotic cytopenic purpura, thrombotic and restenotic complications following invasive procedures resulting from angioplasty, carotid endarterectomy, post CABG (coronary artery bypass graft) surgery, vascular graft surgery, stent placements and insertion of endovascular devices and prostheses.